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MAY · 1923

Vol. XXI. No. 5

\$4.00 a Year, Single Copies 35 Cents

California State Journal of Medicine

OWNED AND PUBLISHED MONTHLY BY THE MEDICAL SOCIETY OF THE STATE OF CALIFORNIA
Entered at San Francisco, California, as Second-Class Matter

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VOL. XXI

MAY, 1923

No. 5

ORIGINAL ARTICLES

RESPONSIBILITY FOR STATEMENTS AND CONCLUSIONS IN ORIGINAL ARTICLES

The author of an article appearing in the JOURNAL is entirely responsible for all statements and conclusions. These may or may not be in harmony with the views of the editorial staff. Furthermore, authors are largely responsible for the language and method of presenting their subjects. All manuscripts will be carefully read, but editorial privileges will be exercised only to a very limited extent. It is believed that the manner of presentation of any subject by any author determines to no small degree the value of his conclusions. Therefore, both the author and the reader, in our opinion, are entitled to have the subject as presented by the author as little disturbed as possible by the editors. However, the right to reduce or reject any article is always reserved.

PYELOGRAPHY: COMMON DIAGNOSTIC ERRORS*

By MILEY B. WESSON

Instructor in Urology, The University of California, San Francisco

INTRODUCTION

The object of this paper is to call attention to the ease with which mistakes in interpretation of renal roentgenograms can be made, and how by complete systematic examinations they can be avoided. For the material used I am under obligations to the departments of roentgenology of the Stanford University Hospital, University of California Hospital, Letterman General Hospital, U. S. Marine Hospital, U. S. Navy Hospital (Mare Island), and to Drs. Hinman, Hartmann, Mathe, Stevens, Player, Kreutzmann, and Raymond.

Urology has become a very attractive specialty, because of the accuracy of diagnosis. This is due to the routine systematic examinations made, and the many checks upon the investigations. One of the most valuable procedures is that of pyelography.

This was first advocated by Voelcker and von Lichtenberg¹ in 1906, popularized in the United States by Braasch² in 1910, and introduced into England by Thomson Walker³ in 1911. Unfortunately, whenever a new diagnostic or therapeutic measure is recommended by an authority it immediately comes into almost universal use by both specialist and general practitioner. Too often, it is regarded as a "miracle performer," and proven methods are for the time discarded. Pyelography is one of our most important diagnostic procedures, but cannot be depended upon alone, as the incorrect interpretation of pyelograms easily leads to unnecessary surgery.

Following the adoption of pyelography as a routine step in urological examinations, those who worked in the larger clinics gradually became familiar with the confusing types, as well as the typical normal cases; but unfortunately little has been published as to the exceptions and fine methods of differentiation in borderline cases. Braasch's "Pyelography"⁴ is the vade-mecum of the urologist, and, though it still remains the most important single contribution to the subject, it was a pioneer publication, stressing typical cases, and cannot be followed blindly, as great strides have been made in this field since its publication.

TECHNIQUE

In the early days of pyelography, numerous accidents and fatalities occurred due to the toxicity of the agents used, overdistention of the kidney pelvis,⁵ and infiltration of the kidney parenchyma.⁶ The three agents (sodium iodide,⁷ sodium bromide, and thorium nitrate), in common use at the present time, are, when properly used, non-toxic. However, accidents still occur because of the use of; (1) old resterilized solutions, (2) too concentrated solutions, and (3) overinjections, with tearing of the renal parenchyma.

It has long been known that the pressure of the blood in the capillaries varied from 20 to 55 mm. of mercury, and that when the intrapelvic pressure exceeded 60 mm. the secretion of urine ceased and filtration occurred in the reverse direction, the substances entering the blood at a fairly rapid rate.⁸ Injection by gravity is the method of choice, and

* Read before the San Francisco County Medical Society, October 31, 1922.

the height of the column should not exceed thirty inches.⁹ Syringes should never be used unless equipped with a manometer, either aneroid or mercury, for it is truly surprising how little force it takes to register 200 to 250 mm. on the gauge.¹⁰

Recently many operators have ceased the practice of taking double pyelograms because of untoward effects, but Hugh H. Young,¹¹ who uses only freshly prepared thorium and the gravity method of injection, takes them routinely—when there are no contra-indications—and without reactions.

A large proportion of the pyelograms and ureterograms made are valueless because of: (1) the incomplete filling of the kidney pelvis (Figs. 1, 2); and (2) to the splinting effect of the catheters which straightens out kinks and angulations and otherwise disguises the pathological condition (Fig. 3). When the catheter is passed it will normally meet with no obstruction (Figs. 4, 5) until at about twelve inches,¹² when it enters the upper calyx. Increased effort to pass the catheter further will cause it to double in either the bladder or the kidney pelvis (Figs. 6, 7), and, if great force is used, to be pushed into the kidney (Fig. 8). Before injecting the solution the catheter should be withdrawn one inch so as to pull the eye back into the pelvis, then withdrawn six inches and again injected, in order to obtain an ureterogram. If the injection is made before the catheter enters the pelvis there will be an excellent ureterogram, a poor pyelogram, and much pain; and if no injection is made below the uretero-pelvic juncture, ureteral diverticula (Fig. 9) will be missed.

Following the introduction of the opaque media, the musculature of the pelvis is very often thrown into a state of tonic spasm (Fig. 10) due either to the trauma of the catheter or the irritation of the solution. In such cases, since only a very small amount of the fluid enters, the operator is tempted to increase the pressure,¹³ with the result that the patient is made more uncomfortable and the pyelogram is always unsatisfactory and often shows a rupture of the pelvis with extravasation into the tissues (Figs. 11, 12, 13). The ideal method is to inject under fluoroscopic vision, so that the filling of the pelvis can be observed and the picture taken at the proper time.

STONES

The diagnosis of renal calculi is usually simple and spectacular, but after examining a large series of kidney plates and checking the various roentgenological reports with the case histories and operative findings, it is seen that some cases (Fig. 14) are almost impossible to diagnose even with all the data at our disposal. Unfortunately, a uniform routine for urological roentgenography has not come into general use, but it is universally agreed that the first picture taken should be a plain picture of the genito-urinary tract (Fig. 15), since if calculi are present they will fail to be shown in

only 9 per cent of the cases,¹⁴ whereas small pelvic stones and even staghorn calculi (Fig. 16) have been missed when the only picture taken was an injected one. Stereograms with the bismuth catheters are of help in ruling out phleboliths and calcified glands (Figs. 17, 18, 19, 32), but will cause confusion if there is a stone in a ureteral diverticulum or a double kidney with a stone in the posterior ureter (Fig. 20). Pyelograms and ureterograms are here necessary.

A plain picture will show the kidney outline in 90 per cent of the cases. The position of the stone in the kidney may be correctly localized by means of a pyelogram, since the shadow of a stone in the pelvis is completely or partially obliterated by the injected fluid (Fig. 21). However, if the stone has a phosphate center and an urate periphery (Fig. 22) it will appear as if separated from the shadowgraph fluid by a halo (Fig. 23) and may be confused with gall stones. Often a picture taken after the fluid has been drained off will show clearly a urate stone impregnated with the fluid, that did not show in the plain picture. The type of operation (nephrotomy) is indicated if an intrarenal pelvis is present; also the relation of a stone in the cortex to the kidney pelvis can be accurately determined. A fracture of the transverse processes of the spine with lateral dislocation of the fragments, so that they are in contact with the kidney cortex, will cause confusion, as do small circumscribed abscesses (Fig. 24). Small kidney stones are harmless, and it is a question whether a stone less than 1 cm. in diameter is surgical. By adopting a policy of watchful waiting, the stones either pass spontaneously or increase in size, and are easier found at operation. However, a large stone in an infected kidney tends to dilatation of the pelvis and pyonephrosis (Fig. 25), and demands immediate attention.

Stones in the lower ureter cause a dilatation below through inflammatory changes (Fig. 26), and above by mechanical dilatation (Fig. 27). A small spicule of bone attached to the pelvic brim, behind a dilated ureter, may be confused with a stone if the picture is taken so high as not to show the lower portion of the dilated ureter.

STRICTURES

Ureteral strictures (Fig. 28) and dilatations (Fig. 29) are important, but before an apparent constriction can be classed as a stricture it must appear in a number of plates. It has long been known that the urine trickled into the funnel portion of the pelvo-ureteral junction, and that peristaltic waves passing downward on an average of one every twenty seconds forced the urine onward, so that it spurted out at the lower end. These peristaltic constriction waves are easily demonstrated by fluoroscopy or when a series of pictures are made at short intervals after the pelvis has been filled with an opaque medium. Most reports of strictures are based on single plates; hence, the

skepticism with which the majority of urologists treat such diagnoses.

A pin-point ureteral orifice (Fig. 30) that causes intravesical ballooning of the lower end of the ureter at the time of the expulsion of urine is not rare, and is more commonly diagnosed with a cystoscope than by a ureterogram.

HYDRONEPHROSIS

Probably the most confusing pyelograms to interpret are those of early hydronephrosis. The errors are due to failure to recognize as normal the bizarre-shaped pelvis. All pelvis should be classified as normal that have a capacity of from 3 cc. to 12 cc., and whose secondary calyces terminate in delicate cup-like processes (Fig. 31). The ureter, as it passes upward, expands into a funnel-shaped structure which soon divides into two segments or major calyces.¹⁶ The upper oblique one carries on the line of the ureter, while the lower one branches off more or less horizontally. The oblique calyx is long and thin, often with a constriction in the middle, while the horizontal one is short and stumpy. Each primary calyx has opening into it calyces of the second order. Sometimes there is a third primary calyx, but this is really a large secondary calyx which opens into the horizontal calyx, occasionally into the bifurcation between the two primary calyces, or exceptionally into the oblique calyx. Writers generally describe the normal pelvis as being pyramidal in shape, and having three major calyces from which the minor arise.

The earliest evidence of hydronephrosis is a flattening and broadening of the delicate minor calyces; next, a broadening of the base of the calyces (Fig. 33) and an increase in size of the true pelvis, and finally all variations (Figs. 34, 35, 36) up to a rounded sac (Fig. 37). A large hydronephrotic kidney should be drained before injecting the opaque media, else it will be so diluted as to give only a faint outline. Since the walls are so thin as to rupture easily (Fig. 38), care should be taken neither to overinject, nor to take a vertical picture (Fig. 39), and to thoroughly drain the injecting fluid before withdrawing the catheter.

RENAL MOTILITY

At one time "floating kidney" was a common diagnosis, and the tendency was to regard as abnormal all low-lying kidneys. Now, definite objective evidence of a pathological lesion as the result of the renal excursion is generally necessary before operative interference is indicated.

Renal motility causes an intermittent distention of the pelvis with colic, but the obstruction is of such short duration as to never cause dilatation and hydronephrosis. Horizontal and vertical pictures are of value in determining the presence of a movable kidney. There is normally a certain amount of renal motility and, due to the angle at which viewed, kinks at the uretero-pelvic junction

often appear more acute than they really are. A common cause of this error in interpretation is the taking of the picture in the vertical position, with a catheter in situ. This acts as a splint, and the heavy filled pelvis and funnel-like upper end of ureter sagging down over it, makes a sharp kink (Fig. 3).

TUBERCULOSIS

In those early cases of renal tuberculosis, where there is a high total phthalein and the urine contains pus and no pyogenic organisms, pyelograms are of inestimable value, as they show characteristic erosions of one or more minor calyces with or without a dilatation of the major calyx. In advanced cases,¹⁸ plain pictures are most important because of the deposit of lime salts (Fig. 40) or calcium oxalate stones in the caseated areas (Figs. 41, 42). In such cases pyelograms (Fig. 43) are rarely necessary, as the added instrumentation is not justified and the diagnosis can be made from the presence of tubercle bacilli, pus, and diminished function. It is often impossible to catheterize late cases because of autonephrectomy.

TUMORS

In order to benefit the patient the diagnosis of renal tumor must be made before the classical symptoms of haematuria, tumor and pain are present, and here the pyelogram is of prime importance. The following changes are seen: (1) elongation of the renal pelvis; (2) distention or retraction of one or more calyces or of the whole pelvis; (3) filling defects of the whole pelvis caused by invasion of its lumen (Fig. 44); (4) rotation and abnormal position of an otherwise normal pelvis; (5) enlarged kidney shadow (Fig. 45); (6) overlapping of vertebrae by ureter. These changes are diagnostic, but not pathognomic as they are found in other conditions. Intra-abdominal tumors (Fig. 46) and adrenal tumors (Fig. 47) are particularly prone to cause confusion in diagnosis. Here, again, all of the facts elicited from a careful history and a complete examination are of importance*in helping to interpret the pyelograms.

DISCUSSION

For years it has been taught that the most dangerous person in medicine is the "man with a curette," but he is harmless compared to the "amateur with a cystoscope." Pyelography is ordinarily a simple maneuver. The untoward results are due to a variety of causes, chief of which are: (1) passage of a cystoscope in a very old debilitated patient, (2) ureteral spasms and complete suppression of urine due to the trauma of passing the catheters, (3) use of toxic shadowgraph fluids, and (4) overinjection.

Our illustrations show well the futility of attempting to make a diagnosis by a pyelogram alone; a careful history and a systematic urological

examination practically always result in an accurate diagnosis.

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- Staghorn calculus, easily confused with a pyelogram because of an artifact in the film, simulating a ureter.
- Faceted stones in the kidney or calcified mesenteric lymph glands? A pyelogram would have cleared the diagnosis.
- A calcified ovary, confused with vesical calculus.
- Calcified mesenteric lymph glands simulating stones but differentiated by: (1) moving on respiration, and (2) not being obscured by the pyelogram.
- Double ureter. Catheter in anterior branch, excess of fluid flowed down to bifurcation at pelvic brim and up the posterior branch to second pelvis, obscuring a stone.
- Calcified lymph gland, diagnosed renal stone because of poor pyelogram.
- Kidney stone, showing half size in a plain picture as it has a phosphate center and a urate periphery (confirmed by chemical examination).
- Pyelogram of same showing true size.
- A "stone" in the kidney which at operation proved to be a small pyogenic cortical abscess.
- Pyonephrosis, due to the presence of a stone in an infected kidney.
- Ureteral stone with dilatation below, due to inflammatory changes in the ureter.
- Pyelogram of same case made after removal of stone, by manipulative measures, showing renal destruction due to back pressure.
- Coiled catheter with a stone; injection shows a stricture and the resultant hydroureter.
- Left ureteritis. A cystogram showed small bladder and a dilated ureter. The only symptom was a pyuria. Following hydraulic distentions, the bladder dilated to 300 cc. and the ureter returned to normal size.
- Stricture of ureteral orifice. Patient complained of "stomach trouble," pyuria was present and cystoscopy showed orifice of left ureter bulging into bladder and having the appearance of a tiny hole in the apex of a cone. The symptoms disappeared following dilatations with a Garceau catheter.
- Varieties of normal kidney pelvis.
- Calcified lymph glands easily confused with renal and ureteral calculi.
- Pyelogram of same. The symptoms were due to a movable kidney with a ureteral kink and a dilatation of the upper end of ureter, pelvis and calyces. The constricting band was cut and the kidney suspended; cure.
- The position of the catheter indicates renal destruction.
- Pyelogram of same (B. coli infection).
- Specimen showing bridge of tissue that prevented shadowgraph fluid entering upper pole of kidney.
- Hydronephrosis on one side and a staghorn calculus on the other.
- Ruptured hydronephrosis: the patient entered a hospital for operation, and while being prepared he experienced a sharp pain in the abdomen—following a blow. A rupture of the hydronephrotic sac was suspected, this pyelogram was made, a nephrectomy was done, and the patient recovered.
- Rupture of a hydronephrotic sac infected with the gas bacillus. By gravity, 60 cc. of fluid was injected; then the operator, becoming impatient, an additional 20 cc. was injected by means of a syringe and this picture obtained. The patient was then placed in the upright position, and the pyelogram showed that the lower pole of the kidney dropped to the pelvic brim. He immediately went into shock, and a pyelotomy was done to remove the thorium; complete suppression of urine persisted for five days. At autopsy the liver was found to be entirely destroyed and cultures showed B. capsulatus aerogenes. Ureteral specimen, taken before the injection of the kidney, showed the same organism.
- Tuberculosis of kidney with deposits of lime salts simulating stones.
- Plain X-ray showed two stones lying below a fistula in the loin, that developed following a blow. A tentative diagnosis of a tuberculous abscess was made, and the fistula was injected with Beck's paste.
- Same case. Pyelogram and ureterogram made by injecting fistula with Beck's paste. Nephrectomy; cure.
- Tuberculosis of kidney; pyelogram shows bifid kidney pelvis simulating renal tumor.
- Roentgenological diagnosis: "The sodium bromide outlines a small kidney pelvis with somewhat blunted calyces and a rather large ureter leading from it. There is a collection of sodium bromide below this which may be in a second kidney pelvis of very anomalous shape but which suggests extravasation of sodium bromide into the tissues or into the peritoneum outlining the colon." Exploratory laparotomy disclosed an inoperable renal tumor.
- Solitary renal cyst containing 1500 cc., in an otherwise normal kidney.
- Dermoid cyst of ileum compressing a normal kidney, so as to cause elongation of calyces and displacement of ureter.
- Hypernephroma of the left suprarenal gland producing a deformity of the renal pelvis by pressure on the kidney.

LEGENDS

- Incomplete pyelogram with abnormal course of catheter indicating renal destruction in a patient that had been reported cured of renal tuberculosis.
- Same case with satisfactory pyelogram showing kidney to be normal; ureteral specimens sterile. The subjective symptoms and pyuria were due to an undiagnosed seminal vesiculitis.
- Movable kidney. The pyelogram is normal in the prone position, but in the upright position the pelvis is only partially filled and the catheter, which was not sufficiently withdrawn, acted as a splint, making an apparent sharp kink.
- Ureteral catheter kinked in a normal ureter.
- Same case; catheter partially withdrawn in an attempt to straighten the kink.
- Pyelogram showing catheter coiled in a normal pelvis (one year after nephropexy).
- Catheter coiled in kidney pelvis—pyelogram.
- Puncture of the renal parenchyma due to inserting ureteral catheter too far. The excess of the injecting fluid has partially filled the bladder and the wall has collapsed about the cystoscope beak, so that there appears to be a vesical perforation.
- Ureteral diverticulum. This anomaly did not show in the pyelogram, but appeared in the ureterogram made when the catheter was withdrawn six inches and then injected.
- Spasmodic contraction of the pelvis of an irritable overinjected kidney, with marked extravasation; later pyelograms normal.
- Extravasation of sodium bromide into parenchyma due to overinjection by the syringe method.
- Extravasation due to overinjection of an infected kidney by means of gravity, 40 inches pressure.
- Extravasation due to overinjection by 75 inches of gravity pressure.
- Diagnosed from plain picture, "residue of barium from a test meal"; following the passage of bismuth catheters, and a pyelogram it was thought to be a ureteral stone, but at operation only a ring of cartilage about the uretero-pelvic orifice was found.
- A soldier returned from the Philippines because of "tuberculosis of the spine." Bilateral renal lithotomy was followed by a complete cure.



Fig. 1



Fig. 2

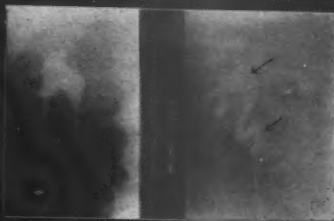


Fig. 3

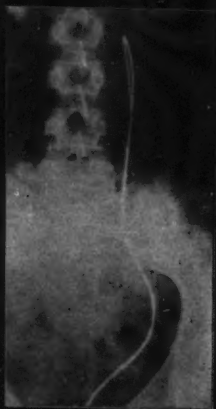


Fig. 4



Fig. 5



Fig. 6



Fig. 7



Fig. 8



Fig. 9



Fig. 10



Fig. 11



Fig. 12



Fig. 13



Fig. 14

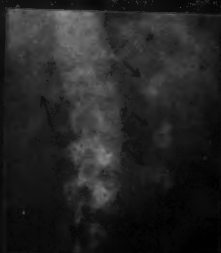


Fig. 15

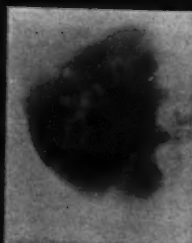


Fig. 16



Fig. 17

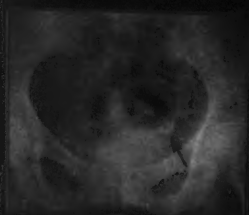


Fig. 18



Fig. 19



Fig. 20



Fig. 21



Fig. 22



Fig. 23



Fig. 24



Fig. 25



Fig. 26



Fig. 27.



Fig. 28

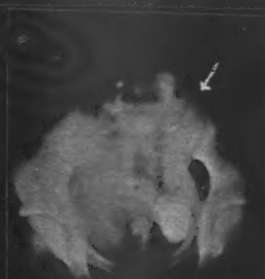


Fig. 29



Fig. 30



Fig. 31

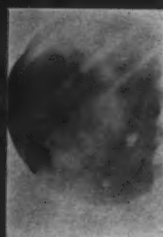


Fig. 32



Fig. 33



Fig. 34



Fig. 35



Fig. 36



Fig. 37



Fig. 38

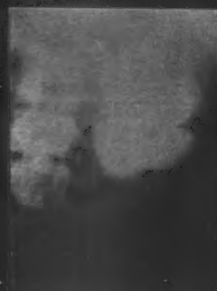
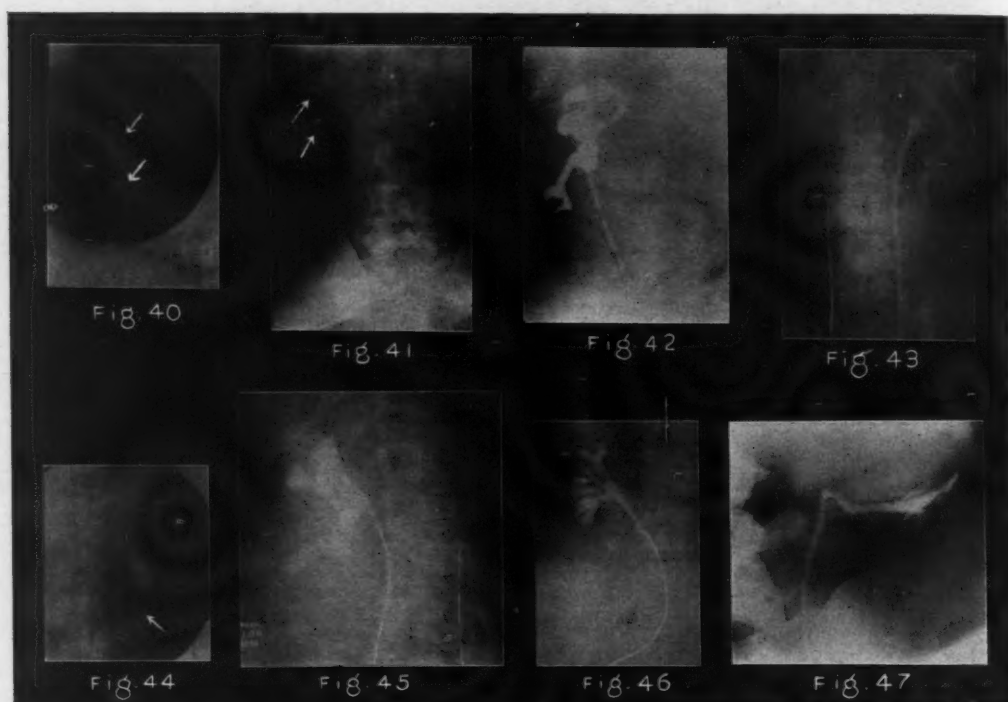


Fig. 39



A PRESSING EDUCATIONAL NEED

By ARTHUR W. MEYER, M. D., Stanford University

No state can, I presume, hope to be economically independent, although an empire in extent. Whether all elements needed for its economic life are found within its own confines is a matter of chance. This, however, is not the case with education. Whether or not a commonwealth meets all the educational needs of its people depends very largely upon the vigor, the foresight, and the enlightenment of its citizens. This should be self-evident and must hold for all save small or young states and for every educational need except perhaps certain very special aspects of education, science, and art.

Our democratic commonwealths early recognized their responsibility in regard to primary and secondary education, soon afterward in respect to higher education and later also to the professions of teaching and law. More recently still the advancement of learning received special attention and support, but strangely enough our public and our commonwealths have been slow to recognize the fact that nothing is more intimately related to public welfare, and nothing likely to promote the common good more than the furtherance of public health through the development of the medical sciences.

Even primitive man, of necessity, must have come to realize that health and happiness are intimately related. Among civilized peoples happiness depends upon very complex relationships and hence rarely is realized without good health. And next to honor, life itself, love of one's own and love

of truth, what could one value more deeply than health. Moreover, public health and public happiness are related even more intimately than personal health and personal happiness, for in public no man can live unto himself alone. A hermit may achieve personal happiness, but in community life no one is wholly unaffected by the acts and the physical condition of his neighbors. In view of this fact, the tardy recognition of *public* responsibility not only for public health, but also of its intimate dependence on personal health, seems surprising indeed.

It is now two generations since modern bacteriology began to reveal to us how diseases are conveyed from person to person. Previously, even contagious disease was regarded largely or wholly as a purely individual matter. Unfortunately there are some benighted individuals among us still who wish to regard it as such and continue to act as though there were no relation between public health and personal well-being. It is fortunate, however, that these individuals have been able to determine public policies regarding health only in certain small communities. In large communities such a decision would be calamitous indeed.

It was wise that our forefathers decided to leave religious education to private initiative, but it was unfortunate that the education of physicians and the care of the public health also rested there until very recently. The first complete medical course under State auspices, it seems, was offered by the University of Vermont in 1822. Virginia followed in 1827; Missouri in 1845, and Michigan

in 1850. But even at present only twenty-nine of our forty-eight States maintain medical schools under State auspices.

Some of our State schools supplanted private schools which had fallen behind the vanguard of progress or which needed assistance, others supplemented them. Of the remaining nineteen States which have no state-supported medical schools, many are so fortunate as to have strongly endowed private schools within their borders. This is true, for example, of the States of Maryland, Massachusetts, New York, and Pennsylvania. Others, such as Illinois, Missouri and Ohio, have both private and endowed schools. A few have no medical schools whatever, either because they are small or not sufficiently populous, or because they lie near large medical centers. Delaware, Nevada, and Rhode Island are examples. A few States which probably are able to do so have failed to assume their full responsibility as yet.

Our own State established a school of medicine as an integral part of its university in 1902. The population of California was about one and a half million at that time and its aggregate wealth approximated one and a half billion. At present the population of California is approximately three and a half million and its aggregate wealth four and a half billion dollars.

We have undertaken many large and important projects for the public good, but it may, I think, be justly said that we have not accepted our full responsibilities for medical education and public health. No one who realizes just what this implies can look complacently upon the present situation. No progressive citizen will decry the expenditure of millions for good roads, but what a contrast to these large sums is formed by the relatively small amount spent upon the education of our future physicians and guardians of public health, and upon the advancement of the medical sciences, upon which the success of both rests. If not the dignity, then surely the welfare of a commonwealth of three and a half million people, would seem to justify a more generous support. Good health concerns every citizen even more than good roads. A well man may muddle through. A sick man can't do even that and good roads do not profit a dead man.

I do not mention these things implying that the need for medical education primarily rests upon an economic or statistical basis. Aside from certain special aspects of disease the population of every State is large enough to present all the major problems of public health and hygiene and of medicine. The need for medical care varies directly with the size of a man's family and indirectly with his wealth.

Although there is no immediate exigency that must be met, the time is past when the Pacific Coast can continue to look so largely to the East for physicians and for the advancement of the medical sciences. Surely, this is not a re-echo of provincialism. A community of four million people should want to assume the burden that rightly is theirs and answer one of the primary needs of its people. This is the only self-respect-

ing and the only wise course, and surely nothing else is sound public policy.

With a population of five and a half million people, the Pacific Coast States have a total of 9677 registered physicians. This is one physician for every 575 inhabitants, a ratio somewhat in excess of that in the United States at large where it is one to every 656 inhabitants. But it must not be forgotten that the population of this coast is scattered very widely indeed, and that among the licensed physicians here there are a larger number who reside in this region largely, or wholly, for purposes other than medical practice.

The general mortality rate among physicians between the ages of twenty-five and sixty-five is estimated as sixteen per one thousand. Hence, the annual loss from death among physicians upon this Coast is 155. It, no doubt, is larger than this because of the composition of the medical profession here. Besides, to this number must be added the physicians required to answer the needs of growth in population. This is the greater demand, especially in these States, and it exceeds the loss from death at present. On the basis of the recent increase in population, about five hundred physicians would be required annually, in addition to those lost by death, in order to maintain the present ratio upon this Coast. Hence, the annual need of the Pacific States would seem to be approximately 655 physicians. Yet the one private and the two State medical schools within this area graduated only 104 students in 1920. This leaves an annual deficit of over 550, which must be met by physicians from other States. It is true that to a very small degree the above discrepancy is offset by young people from the Pacific States, who are being educated in medicine outside of this area, but this number necessarily is small and really quite negligible in connection with the total requirements of this Coast.

But it may be asked why should we assume a burden which other States now are carrying for us. Apart from considerations already presented, there is no reason. Any commonwealth may be as dependent as it chooses to be and we well might rest content, provided that we receive only well-trained physicians and that we can rely on getting the needed number in the future. As far as the first consideration is concerned, it may be frankly stated that most of the schools of medicine upon this Coast now afford better training than that given in many of the medical schools outside of this area. Moreover, it is well to remember that there is no reason why our schools should not move still nearer to the front in medical education if more liberally supported.

A short survey will help to answer the question whether, under present conditions, we can continue to receive an adequate supply of physicians from other States. The annual loss from death among physicians in the United States is estimated at 2329. Upon the basis of the annual increase in population during the last decade, 2286 more physicians are needed annually in order to supply the need of additions to the population. This makes a total of 4615. The grand total of

graduates in medicine in the United States was only 3047 in 1920, although it was 4440 in 1910. Hence, it is clear that unless other States and other agencies assume still larger responsibilities for medical education, that this Coast soon will be compelled to assume its own obligations. And surely no resolute people will take a chance with public health by shirking its duties toward medical education or deliberately decide to be permanently dependent upon the initiative and generosity of other States.

But it may be urged that we still have one physician for every 506 inhabitants in our own State. This is an excess of more than 20 per cent over that for the country at large. However, from 3 to 5 per cent of the physicians licensed in California really are not in active practice, and the alleged therapeutic fame of our climate brings us a large number of chronic invalids who considerably increase the demand for medical care. To a certain extent, I presume, the alleged lower general morbidity of the native population may counterbalance this effect, but there is no way in which this matter can be determined. The estimate which one obtains regarding it depends very largely upon the enthusiasm of the particular Californian consulted.

The estimated annual loss from death from California physicians is 108, but the increasing population alone requires 385 additional physicians yearly to maintain the present ratio. The number of graduates in the schools within the State, which maintain standards justifying recognition by the State Board of Medical Examiners, was only ninety in 1920. Hence, it is clear that, at present, California depends upon the generosity of private endowments or State efforts beyond her borders, to the extent of 403 physicians annually. However justifiable it may be at present, everyone will, I think, admit that for a permanent status this is no more desirable than it is creditable, to a large and prosperous commonwealth. The idea is not that we should have only physicians trained locally in medical practice within the State, but that our State must as soon as possible do its share in the training of physicians, as well as in the advancement of the medical sciences and assume its rightful educational burden.

Upon the basis of our present population, we should carry one-twenty-fifth of that national burden. We are carrying far less than this—less than one-fourth of this. Hence, it is fortunate that private agencies have considerably supplemented State effort in the past. This was done in part by institutions now defunct, and since 1909 also by Stanford University. Indeed, no matter how one regards it, the medical needs of the State of California, insofar as they were met intramurally, were to a considerable extent met, since 1909, by Stanford. In fact, from this date up to 1921 the graduates of Stanford, though not many, formed the majority of the combined graduates in medicine at California and Stanford. Stanford's share was over 55 per cent.

Were the University of California Medical School alone to meet the annual demand for physi-

cians in the entire State, it should graduate approximately four hundred physicians annually and have 1600 medical students. That number of graduates is approximately twenty times those graduated in 1920. Moreover, since our best endowed medical schools, such as Harvard and Johns Hopkins, graduate only about one hundred students each annually, and wisely limit their classes approximately to this number, the inability and perhaps also the inadvisability, of a single school meeting this needs seems clearly evident. Only one medical school in the United States graduates more than 170 students annually. Hence, even if our State could at once accept its full responsibility for medical education, and enlarged the facilities of our State medical school three or four times, there still would be ample room for another institution solely because of the constant need for physicians.

But there are other weighty reasons why a second institution, wholly independent of legislative aid, can be a distinct advantage. Anyone who even briefly surveys the history of education in the United States and examines the status of State schools cannot fail to be impressed by this fact. Although the State of Maryland is small, and although it is located in a portion of our country well provided with medical schools, it has recently been both declared and acknowledged by high authorities that it is best that two medical schools be maintained in the city of Baltimore. Certainly, if this be true for Maryland it must also be true for California. Here is an empire in extent with a much larger population and with more than comparable resources even today. But far more important still than these considerations is the undeniable fact that the educational and physical needs of the people of California are practically the same as those of the rest of the people of our entire country. If endowed medical schools have done much elsewhere in stimulating and arousing personal initiative and also in stimulating State schools besides contributing actively to medical progress, they also can do so here in California.

It is to be hoped that our people will generously support the medical school of our State University. Not to do so would be to jeopardize public health and seriously hamper medical progress. But it should not be forgotten that, so far as possible, Stanford makes California's peculiar problems her own and that she will always be ready to do whatever she may to further the best interests of our State and to help extend the many-sided activities of our great State University.

Stanford is proud of the fine accomplishments and of the splendid future which we know our State medical school could achieve alone. But there is some advantage in friendly rivalry and whole-hearted co-operation between a State and an endowed institution—between private and public initiative. We are all the more likely to realize high ideals under the stimulus of kindly suggestion and friendly criticism. The development through generous financial support, of both medical schools as well as of both Universities, is likely to be best

not only for the sake of medical education and of public health, but also for the State and Nation.

The task is more than enough for both institutions. Nor must it be overlooked that the position of our Pacific institutions is strategic and that the welfare of the entire country is best promoted by a general and equal development throughout its broad domain. Let us hope that philanthropic persons both within and without the State will gladly acknowledge that from the beginning Stanford has assisted very materially in carrying a large public burden, and that with the growth of population she must of necessity carry more. Such a role will not in the least restrict the activities of our State University. It is bound to promote rather than hinder its progress.

(Stanford University, January 26, 1923).

CONGENITAL ELEVATION OF THE SCAPULAE *

By ARTHUR L. FISHER, M. D., San Francisco

Congenital elevation of the scapulae is a rare deformity, as evidenced by the fact that there are but five cases reported in all six numbers of the quarterly index of medical literature. There has been but one case in the last few years in the Stanford out-patient department. Both the Stanford case and the one here reported showed somewhat similar conditions.

There are two types of elevated scapulae—one in which the scapula is pulled up apparently by muscular action only, and a second type in which there is a definite bony deformity that apparently changes the leverage of the muscles in such a way that the scapula is pulled upward. It is of this latter type that I wish particularly to speak.

In this form there is a bony bar that runs from the upper portion of the scapula to the posterior portion of the lower cervical vertebrae. A definite joint is formed at either end of this bar. This was the condition present in both cases referred to above. In endeavoring to find why such a bar is present, most naturally one looks back into the phylogenetic ancestry of the race. The only thing that seems at all likely to be the phylogenetic ancestor of this accessory piece of bone is a cartilaginous bar, which occupies a somewhat similar position in a special group of fishes; namely, the dipnoi.

In May, 1921, a boy, E. R., age two years, was brought to see me with the complaint of deformity of the left shoulder. The child had been a full-term child; had three older brothers and sisters well developed; no abnormalities in family; birth was normal; no instruments used; had a perfectly normal babyhood up to one year. There is a history of a fall at the age of one year. About

three months ago—that is, when the child was one year and nine months old—the parents began to notice that there was inequality in the shoulders.

On examination, the left scapula was definitely higher than the right and somewhat smaller than the right. The neck muscles on the left side seemed to be bunched. Motion in the scapulo-humero joint was not quite so free on the left side as on the right side. X-ray examination showed congenital elevation of the left scapula. The upper end of the shaft of the left humerus was expanded and showed an area of decreased density. This was somewhat irregular about the margins. This suggested a bone cyst with fracture into it, with callus formation. Lying behind the lateral mass of the fifth cervical vertebra on the left side, there was a smoothly outlined bone suggesting a cervical rib.

A few days later operation was undertaken, the operation consisting of two parts—first, removal of the accessory bar of bone; and second, a plastic on the muscles of the back below the scapula in order to hold it down. An incision was made over the bar which could easily be felt running from the upper inner angle of the scapula to the upper thoracic vertebrae. This bar was divided and most of it excised; the stump at either end being left to avoid too much mutilation, was covered in with soft tissue so as to prevent the regeneration of the bar. This wound was closed. A second incision was then made vertically between the spinus processes and the posterior border of the scapula. A V-shaped piece was then taken out of the trapezius in such a way that the base was at the border of the trapezius and the apex at about the fifth or sixth thoracic spine. A suture was then taken from the inferior angle of the scapula, taking in as much tissue as possible about the angle of the scapula, and carried down through the muscles and brought out through the skin at the region of the eleventh or twelfth thoracic spine. The needle was then reinserted at this point, and brought out again through the muscles at the angle of the scapula. This was a heavy suture and capable of withstanding a great deal of tension. It was tightened and the scapula thus brought downward and fixed in place. The V-shaped rent in the trapezius was then sutured as an additional measure to hold the scapula down. The scapula came down so readily that it was not necessary to do anything to the elevators of the scapula. The wound was then closed and the child's arm and thorax encased in plaster, in order to hold him quiet. He made an uneventful recovery and went back to his home in Mendocino County after about three weeks.

I have not seen the child since, but have heard from the parents that they are well satisfied with the result, and that the two shoulders are now very nearly alike.

Both parts of this operation have been done before, but, as far as I know, this is the first time that a complete operation has been done on one of these cases.

* Read before the Fifty-first Meeting of the California State Medical Society.

INSULIN TREATMENT OF DIABETES MELLITUS*

By ALBERT H. ROWE, M. D., M. S., Oakland, Calif.

Insulin has been selected by Banting and Best of Toronto University as the name of the extract of pancreas, which contains the active principle of the islands of Langerhans. The honor of first demonstrating the specific and complete control by insulin of fatal diabetes in dogs, and later of severe diabetes in man, and first elaborating the method of obtaining a stable, active, and non-irritating preparation of insulin, belongs primarily to Banting and Best, and secondarily to their advisers and co-workers, MacLeod, Collip, Fitzgerald, Henderson, Graham and certain others.

In the last few months several specialists in North America and England have been given the opportunity of using insulin in their severe cases of diabetes, and have been able to substantiate and reaffirm all the conclusions of the Toronto investigators. Thus, it is now certain that insulin is an absolute specific for diabetes mellitus and that it has taken its place for all time as one of the greatest discoveries in medical science.

A brief history of the researches which preceded the epoch-making ones of Banting and Best will be of interest. In 1889, Von Mering and Minkowski first established the etiology of diabetes mellitus by producing fatal diabetes after total pancreatectomy in dogs. Minkowski, Sandmeyer, and Pflüger then tried to control diabetes by the feeding of pancreas. Their attempts, as well as all other subsequent trials, have led to complete failure and even harmful results. At various intervals, Gley, Kleiner, Marlin, Paulesco, as well as others, have observed a reduction of blood and urinary sugar subsequent to intravenous injections of aqueous extract of fresh pancreas, but no stable extracts or constant results were ever recorded. Of definite importance was the work of Rennie and Fraser in 1907. They recognized the destructive action that the proteolytic ferments of the pancreas might have on its internal secretion, and thus tried feeding the islet tissue of teleostean fishes, which tissue is separate from the rest of the pancreas, but obtained negative results.

One outstanding clinical study was that of Zuelzer, in 1908. He extracted the pancreas with alcohol, dissolved the residue in salt solution and used this extract intravenously in six diabetics, with a remarkable control of glycosuria. Because of the tremendous protein reactions, this procedure unfortunately was never elaborated. In 1912, Scott again tried to destroy the proteolytic ferments by extracting pancreas with alcohol, but was unable to obtain any definite physiological effects.

During 1921, Banting and Best of Toronto undertook anew the problem of obtaining active pancreatic extracts. Their first inspiration gave them the idea of using pancreatic tissue in which the acinar structure had degenerated as a result of ligation of the ducts. The extracts thus obtained showed surprisingly constant reducing effects

on the hyperglycaemia and glycosuria of diabetic dogs. Searching for a larger supply of pancreatic tissue devoid of acinar cells, they learned of the work of Ibrahim, who had found no digestive secretions in the pancreatic glands of foetal calves under five months. Banting and Best first made extracts of such tissue with Ringer's solution and obtained a most potent and active product. This extract given daily by hypodermic enabled a totally diabetic dog to live seventy days, the average length of life previously recorded for such animals having been fourteen days. Alcohol was next tried as an extracting medium by Banting and Best, and they soon found that an active extract was able to be obtained from the pancreatic tissue of the adult ox. J. P. Collip then perfected a method of preparation of insulin from adult glands, which extract contained a minimum of protein, lipoids, and salts, and which could be injected hypodermically with little local reaction.

During the last year several articles have been published dealing with the activity of insulin. These articles have reported the remarkable lowering of the normal blood sugar in rabbits which occurs with insulin injections, the control by insulin of the hyperglycaemia produced artificially by piqûre puncture, adrenalin injections, ether anesthesia, and asphyxia, the elevation of the respiratory quotient in diabetic animals after the use of insulin, the storage of glycogen and the reduction of fat in the livers of diabetic animals, resulting from the use of insulin, and the remarkable excretion of ketones from blood and urine by the use of insulin.

The first article dealing with the clinical use of insulin in diabetes mellitus was published in March, 1922, in the Canadian Medical Journal, by Banting, Best, Collip, Campbell, and Fletcher. After observing its effect in seven cases of diabetes mellitus, they concluded that insulin could reduce the blood sugar to normal, abolish glycosuria, eradicate ketones from blood and urine, raise the respiratory quotient, and restore the health and strength of patients suffering with this disease. On January 6, 1923, a second clinical article appeared in the British Medical Journal by Banting, Campbell, and Fletcher entitled, "Further Experiences With Insulin in the Treatment of Diabetes Mellitus." The effects of insulin in fifty cases of severe diabetes were reported, and all the conclusions of the first clinical article of nearly a year before were confirmed. In addition, insulin was stated to be a specific in diabetic coma. Six out of ten cases of coma are recorded as having recovered as a result of insulin injections.

PERSONAL EXPERIENCES

In October of last year, I was granted permission by the diabetic committee of the University of Toronto, through Professor MacLeod, to manufacture insulin for use in my own severe cases. During November and December, through the work of three of my assistants and my own efforts, we were able to prepare a number of very potent extracts of pancreas, following the technic of Dr. Collip, with certain modifications suggested by

* Read before the Alameda County Medical Society, March 19, 1923.

Dr. Sansum of Santa Barbara. These extracts were all tested out on rabbits, and five of them, as shown in Table I, reduced the normal blood sugar level below .045 and produced convulsions and coma in rabbits, which condition invariably was relieved within a few minutes by the injection of glucose. Six of the nineteen preparations reduced the blood sugar to a point between .065 and .045. The other extracts in the doses administered did not depress the blood sugar enough to consider them potent according to the standards set by Banting, Best, Collip, MacLeod and Noble.

On November 17, 1922, the first case of severe diabetes was treated in my clinic, and we were able to keep this patient sugar-free for many days with one of our preparations. At this time, I was fortunately designated by the University of Toronto as one of the clinicians to receive iletin from Eli Lilly & Co. for experimental use in severe cases of diabetes, and since then practically all therapy has been carried out with iletin. We continued to manufacture insulin, however, during November and December in my clinic, since the supply received from Eli Lilly was inadequate at first for the cases which urgently needed treatment. In January, however, because of the remarkably stable, active, and carefully standardized product I was receiving from Lilly in amounts sufficient to meet our needs, we discontinued the preparation of insulin entirely. Great credit is due Dr. G. H. A. Clowes of the Lilly Co. for the excellent and dependable quality of insulin which his company has been able to produce, and this now in sufficient quantities to meet the needs of numerous clinics and specialists all over this country. During the first three months no charge was made by Lilly for the iletin we received, and during this period I had ample opportunity to corroborate the conclusions of other clinicians who were testing the effect of this extract.

During the last four months we have treated twenty-five patients with insulin, with very gratifying results. Certain data concerning twenty-three of these diabetics is contained in Table II. These records indicate the remarkable effect insulin has on the blood and urinary sugar, the ketonuria, and the general health, strength and weight of diabetics. Detailed reports of several of these cases of diabetes and of cases of coma which have been controlled and restored to health by insulin will be published later. At this time it is impossible to give the results of urinary ammonia determinations, CO₂ tensions in blood plasma, and the great number of blood sugar determinations which were found necessary to be made in the treatment of these severe diabetics, especially of those in acidosis or coma. It is also possible to record only the last doses of insulin and amounts of carbohydrates, proteins, and fat in the final diets at this time.

The general plan of instituting insulin treatment may be outlined: A careful history and physical examination is first made and urinary and blood sugar determinations are carried out. If the blood sugar is normal and the patient is

taking a two thousand calory diet, which contains not more than two or three times as much fat as available carbohydrate, there is no great indication for insulin treatment. At the start, great care must be taken to recognize the renal diabetics who continually excrete sugar in the urine, but have no increase of sugar in the blood, even after 100 grams of glucose have been taken by mouth. The charts of two young women with glycosuria and doubtful histories of true diabetes are published in this article, to show the blood-sugar curve of a case of renal diabetes and one of diabetes mellitus. If insulin had been given to the renal diabetic, we might easily have depressed the blood sugar to a point where convulsions and coma might have occurred. If true diabetics are unable to take enough calories to furnish energy for their work without hyperglycaemia, insulin is carefully administered, the dose and amount depending on the urinary and blood-sugar analyses. Each unit of iletin (Lilly) will burn from one to two grams of carbohydrate. The intervals between the hypodermics of insulin are best determined by blood sugar determinations taken several times during the day. These show the number of hours the dose of insulin depresses the blood-sugar curve. The most essential requisite from the patient's point of view is that he be able to accurately estimate the number of grams of carbohydrate, protein, and fat in his diet. This necessity is even greater with the use of insulin than when the disease was controlled by diet alone, and rigid dietary care must be continued as long as insulin is used. Special comments on certain cases in Table II follow:

A. C. was a diabetic with practically no tolerance at all. For one month she had been on the diet recorded without becoming sugar free. She was so weak that she was unable to walk up a short flight of stairs without breathlessness. After four months of treatment with insulin and on the diet recorded she has gained 34 pounds and feels perfectly well. R. F. is another case of a slightly less severe type. Both of these cases developed three years ago during pregnancy.

H. S., when first seen, was weak, thin, and suffering with advanced acidosis. Under insulin both sugar and ketones disappeared from the urine within six hours. She has gained twenty pounds and is in the best of physical condition.

O. L. has had diabetes for thirty years without complications. Suddenly two months ago without warning, gangrene began in his right foot and amputation of the big toe was followed by rapid extension of gangrene and fever. With insulin he was rapidly made sugar free, given an adequate carbohydrate and caloric intake and amputation was performed with gas and oxygen anaesthesia in two days because of the appearance of gas crepitus in his leg and a rise of temperature. He had no post-operative fever or rise of pulse and has remained sugar free continuously.

A. A. was in complete diabetic coma when first seen. She was unable to be aroused and had deep Kussmaul breathing. Large amounts of insulin were given during the first few days. For forty-eight hours nearly all fluids were given by vein. She became restless within seven hours and conscious within twenty-four hours. She then developed a right broncho-pneumonia with a temperature of 105 F, which lasted several days. In spite of this infection she made a complete recovery and three

weeks after entrance to the hospital was able to walk out. She is sugar free now on the recorded diet and insulin dosage and feels well.

D. E. is another case of advanced acidosis. All memory for the six days before admission to the hospital was absent. He was made sugar and acid free within twelve hours, and his blood sugar and CO_2 tension in blood plasma returned to normal within a few days with heavy insulin therapy.

R. M., a child of two years, referred by Dr. Langley Porter, was just going into deep diabetic coma when first seen. Over 20 units of insulin given within the first few hours made her sugar and acid free in her urine within six hours, and she has continued sugar free for many weeks on a good diet and little insulin.

Besides this last case of diabetes, we have under control six other cases of diabetes in children under eight years of age. As shown in Table II, three of these are on insulin treatment and are getting good results.

CONCLUSION

There is no doubt that insulin is one of the few specifics we have in medicine, and it completely fulfills the dream of physiologists and diabetic specialists. For those patients who will be steadfast to their diets and who will take insulin in proper doses, the outlook for health and freedom from diabetic complications is practically assured. Patients in coma, providing the circulation does not fail, can usually be restored to consciousness and gradually be brought back to strength and well-being by the use of insulin.

However, as shown in our records, delay in the recognition of severe acidosis and semi-coma is serious.

The importance of careful laboratory control by urinary and blood plasma analyses when insulin is to be used must be insisted on. To assure accuracy, these tests must be done by experienced chemists who have a large amount of such work continually at hand. The various alveolar air, blood, and urine tests for acidosis which were discussed by me in 1917 in an article in this Journal, must be available in the treatment of severe diabetics. The CO_2 tension in blood plasma is especially important.

Moreover, glycosuria due to renal diabetes must be recognized, and such patients with normal blood sugars ought not receive insulin. In true diabetes we can corroborate the conclusion of Banting and his associates that insulin will eradicate glycosuria and hyperglycaemia, eliminate the ketones from blood and urine, elevate the CO_2 tension in the blood plasma, and restore the physical well-being of patients.

Four cases of diabetes in children from the ages of two to eight years are being well controlled by insulin and dietary therapy.

(119 Thirteenth Street, Oakland.)

Note—My sincere thanks are due Prof. Fitzgerald of the University of Toronto, who has given his approval and generous counsel during the progress of my work with insulin.

TABLE I.
Effect of Insulin Preparations on Blood Sugar of Rabbits.

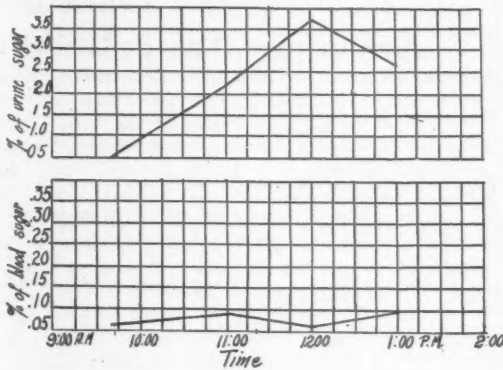
Insulin Preparation	Amount Injected	BLOOD SUGARS								Clinical Condition
		Original	1½ Hrs.	2 Hrs.	2½ Hrs.	3 Hrs.	3½ Hrs.	4 Hrs.	4½ Hrs.	
1	1 c.c.	0.113	0.087					0.065		Normal.
2	1 c.c.	0.126	0.054			0.039				Convulsions in 3 hours.
3	1 c.c.	0.13	0.048			0.043				Convulsions in 3 hours.
4	½ c.c.	0.153	0.120			0.095				Normal.
	2 c.c.	0.117	0.041							Weak, unable to walk.
5	1 c.c.	0.108			0.026					Normal.
6	1 c.c.	0.144		0.073		0.060				Weak in 1½ hours.
7	1½ c.c.	0.122	0.089			0.056				Weak, eyes protruding.
8	1 c.c.	0.110		0.01						Convulsions in 1½ hours.
9	1½ c.c.	0.111	■					0.052		Protruding eyes.
11	2 c.c.		■						0.05	Normal.
12	1 c.c.	0.08				0.05				Normal.
13	1 c.c.	0.12	■			0.059		0.045		Normal.
14	1 c.c.	0.12					0.072			Normal.
16	1 c.c.	0.11				0.11				Normal.
17	1 c.c.	0.13			0.06		0.03			Convulsions in 2½ hours.
18	1 c.c.	0.18				0.11		0.08		Normal.
19	1 c.c.	0.08				0.09			0.10	Normal.

MRS. W. K.: AGE 31 YEARS—RENAL DIABETES

History—Sugar first noticed in urine four years ago. However, she was accepted by the New York Life Insurance Company one year later. Is now pregnant and sugar is constantly present, although there are no typical diabetic symptoms, or loss of strength or weight.

LABORATORY FINDINGS:

Date	Time	Condition	Urine Sugar	Blood Sugar
March 4			0.5%	
5				0.090%
7	7:30 AM		0.76	
	11:20		2.5	
	4:00 PM		2.1	
	8:30		1.4	
8	6:30 AM		0.4	0.072
12	9:40	Fasting	0.5	0.061
	11:00	1hr after 110 gms glucose	2.21	0.087
	12:00	2hrs	3.7	0.063
	1:00 PM	3hrs	2.7	0.087



MRS. E. F.: Age 44 Years—DIABETES MELLITUS

History—Sugar in urine first noticed December 10, 1918. Has no typical diabetic symptoms and is free from sugar for months at a time.

LABORATORY FINDINGS:

Date	Time	Condition	Urine Sugar	Blood Sugar
March 12				0.152
14	11:00 AM	Fasting	0.5	0.180
	11:00	1hr after 110 gms glucose	0.88	0.396
	12:00	2hrs	2.4	0.512
	1:00 PM	3hrs	3.7	0.279

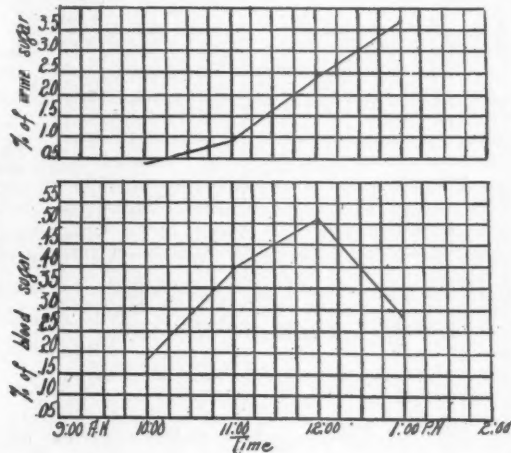


TABLE II.

Summary of Diabetic Cases Treated with Insulin.

Name	Sex	Age	Before and After Treatment	Diet in Grams			Insulin	Urinary Findings		Blood Sugar	Weight	Clinical Condition
				CHO	Prot.	Fat		Sugar	Diabetic			
A. C.	F	31	Before	3	32	20	0	+++	+++	0.37	91	Very weak.
			After 4 months	21	65	109	I15-ac. B I10-ac. L & D	0	0	0.117	125	Marked increase in strength and health.
R. F.	F	31	Before	18	45	150	0	0.6	++	0.34	90½	Weak and depressed.
			After 3 months	40	52	150	I10-ac. B I6-ac. L & D	0	0	0.16	107½	Feeling fine.
H. S.	F	17	Before	Mod.	Limited	Limited	0	++	++	0.312	93	Ill and weak.
			After 3 months	24	52	145	I10-ac. B I8-ac. L & D	0	0	0.120	111½	Strong and well.
L. G.	F	27	Before	30	30	70	0	+	+	0.260	108	Weak. Unable to keep free.
			After 2 months	36	52	150	I10-t.i.d.	0	0	0.120	115	Feels perfectly well.
A. C.	F	30	Before	12	36	138	0	+	++	0.326	109	Marked depression.
			After 1 month	21	42	135	I6-t.i.d.	0	0	0.12	113	Unwilling to continue treatment.
E. R.	F	22	Before	Unlimited			0	4.8	0	0.230	94	Acute diabetes.
			After 2 months	24	64	142	I3-b.i.d.	0	0	0.062	101	Weights more than ever before.
L. M.	M	50	Before	12	60	93	0	+	0	0.198	182	Lacking in energy.
			After 1 month	21	70	150	I6-t.i.d.	0	0	0.08	187	Stronger.

TABLE II—Continued.
Summary of Diabetic Cases Treated with Insulin—Continued.

Name	Sex	Age	Before and After Treatment	Diet in Grams			Insulin	Urinary Findings		Blood Sugar	Weight	Clinical Condition		
				CH O	Prot.	Fat		Sugar	Diabetic					
S. F.	F	50	Before	12	36	120	0	0	+	+	0.155	94	Probably on too low diet. Weak, nervous.	
			After 3 months	66	60	180	I2-t.i.d.	0	0	0.130	102	Strong and well.		
J. J.	F	43	Before	6	45	60	0	+	+	+	0.270			
			After 2 weeks	24	54	150	I3-t.i.d.	0	0	0.101			Unwilling to continue treatment.	
R. C.	F	33	Before	20	40	80	0	0	0	0.220	100½		Sugar with increase of diet.	
			After 4 weeks	20	50	100	I5-b.i.d.	0	0	0.120	106		Feels stronger.	
W. B.	M	66	Before	Mod.	Limited	Limited	0	1.9	0	0.353	141		Weak. Recent loss of weight.	
			After 3 weeks	75	72	150	I10-t.i.d.	0	0	0.083	151		Stronger	
O. L.	M	73	Before	Slightly	limited		0	3.8	0	0.277			Gangrene of foot, daily temperature. Sugar-free in 12 hrs. Amputation in mid thigh in 2 days. No temperature after surgery. Left hospital in 10 days.	
			After 2 weeks	60	45	150	I10-ac. B & L I8-ac. D.	0	0	0.108		Increase in weight		
C. S.	M	67	Before	Unlimited			0	2.1	0	0.370			Feels increase	
			After 3 weeks	75	75	150	I10-3c. B. I5-ac. D.	0	0	0.101		in weight	Marked increase in strength and vigor.	
S. M.	F	51	Before	Mod.	limited		0	0.6	0	0.232	122		Weak and ill-appearing	
			After 1 week	30	60	120	I5-t.i.d.	0	0	0.110			Definite increase in strength.	
D. E.	M	60	Before	Slight	limitation		0	5.0	+	0.439	163		Semi-conscious for 6 days preceding treatment. 175-100 during first 4 days to bring out of coma. Perfect recovery within 1 week.	
			After 2 weeks	54	60	150	I10-t.i.d. I5-at midnight	0	0	0.075	163			
A. A.	F	32	Before	Mod.	Restriction		0	5.0	+	+	0.915			Average of about 150 units of I for 3 days to bring out of coma.
			After 4 weeks	30	60	150	I10-t.i.d.	0	0	0.094	130		Feels well and strong.	
D. D.	M	32					I100 from 6-10 P. M.			None				Seen in deep coma at 6 P. M.
										taken				Death by heart failure at 11 P. M.
D. W.	F	11	Before	Unlimited			0	+	+	+	0.360			Deeply unconscious for 10 hrs. Out of coma in 4 hrs. with 30 units of Iletin.
			After 1 week	15	50	50	I7-t.i.d.	0	0	0.110				
C.	F	8					I10 from 9-10 A. M.			None				Seen in deep coma at 9 A. M. 10 units of Iletin given. Death at 10 A. M.
										taken				
R. M.	F	2	Before	Undetermined			0	+	+	+	None	26		Semi-comatose, vomiting.
			After 3 months	41	35	73	I2½-b.i.d.	0	0	taken	31		Well and strong.	
H. R.	M	8	Before	20	40	80	0	Sl. +	0	None	44			Unable to keep sugar-free. Has had mild influenza.
			After 1 month	28	50	105	I2-b.i.d.	0	0	taken	48		Remains free unless he oversteps his diet.	
B. C.	M	4	Before	0	30	25	0	+	+	+	0.248	32		Weak, exhausted.
			After 3 months	15	36	94	I5-t.i.d.	0	0	0.110	38		Strong and lively.	
C. C.	M	7	Before	Mod.	limitation		0	2.7	0	None taken				Weak, unable to keep sugar free.
			After 2 weeks	35	45	90	I2½-b.i.d.	0	0	0.074			Strong.	

NOTE: In the above six cases of coma and semi-coma, glucose was given intravenously and by mouth when patients recovered consciousness. Otherwise the large doses of Iletin given would have produced fatal hypoglycaemia. We feel it important to continue to burn glucose with Insulin in order to eradicate the ketones in these patients.

MEDICAL SOCIAL SERVICE IN THE HOSPITAL*

By MARGUERITE A. WALES, San Francisco
From the Social Service Department of Stanford
University Hospital

"If there had never been any medical social work in your hospital, just where would you begin to develop such a department?" This was the question recently put by a student who was planning to go back to Australia to introduce social service work in a large city institution.

In a work as comparatively new as medical social service, most of us are organizing or reorganizing as the work develops, but many of us have come into the work in institutions where something under the name "social service" has been going on for some time. To answer this question, it will be necessary to put aside the particular problem of your special department, and to fancy yourself in the place of this student, on board a steamer bound for Australia or some port where "hospital social service" is unknown. You are to think out a plan that will work—a plan for a large city hospital with crowded clinics; an enthusiastic board of directors, eager to work but not knowing how to begin; an appropriation for salaries, but no staff selected; a progressive medical staff, interested but uninformed. Will the idea work? Will it pay? Of what value will it be to them?

First, it will be necessary to survey the field of work.

1. *The Hospital*—How are admissions handled? Does a trained worker interview patients, noting their needs and determining their social status or does an unskilled and possibly unsympathetic individual pass or reject patients according to his superficial judgment?

2. *The School of Nursing*—Are student nurses given an opportunity for training in social or public health work? There is a growing demand for nurses with social and public health training to fill positions in this interesting field—so varied and so full of promise. The social service department offers the only place for nurses to get even a glimpse of this great public movement.

3. *The Medical Staff*—What special clinics are they conducting—babies, children's, prenatal, tubercular, luetic? How are they checking up their progress? Are the clinics growing? And, the greatest test, are the old patients returning? Are they achieving the best possible results? Do old conditions recur?

4. *The Patient*—How much consideration is given the family problem; the home complications of caring for children while the mother is in the hospital; the after-care of weak patients; does treatment cease with discharge from the hospital?

5. *Community Resources*—Relief agencies, how efficient and how co-operative are they? Do the school nurses use the clinics as they should? Is there a visiting nurse association? Do they care for patients needing outside nursing care? What are the local facilities for convalescence? Homes

for children? For adults? What aid is given the handicapped? Is there a workshop for rehabilitation? The employment problem for the handicapped—is there a clearing house and placement bureau for those needing change of work?

While surveying the new field, the worker must bear in mind the importance of choosing the right policy at the start and of avoiding pitfalls. On the one hand, there is danger of having the department stand out in the minds of the medical staff and the hospital authorities as primarily "relief work" and the giving of free medicine. In the recent analysis of hospital social service departments in New York City, the recommendation is made that only emergency relief be given, all long-continued cases being referred to outside agencies established for that particular purpose. On the other hand, the department may be in danger of being swallowed up in hospital administration, becoming the financial investigating bureau to protect private practice. In the above-mentioned analysis of the 40 departments studied, 24 had no responsibility for this investigation, 4 occasionally, 4 decided all fees, and 8 investigated specified classes. In the recommendation of the social service section of the associated out-patient clinics of New York, we find: "Financial investigation of patients as to ability to pay the hospital or clinic is not the function of social service," although all agree that there should be close co-operation between social service and hospital administration. At the annual meeting of the American Hospital Association, too, we find this investigation for financial rating allowed only under the head of "temporary function" for the social service department.

What then shall be the "permanent function" of such a department? Plainly its immediate function should be to supplement medical treatment—to help restore patients to health. But beyond that its larger and more lasting effort should be in the field of prevention—to study the special causes of health and behavior, and to co-operate in the education of students of social work, and of the public, in general hygiene and matters of health. For "Prevention" is one of the slogans of the modern medical man, and many of the more progressive members of the profession have already found the social service worker an important member of their team in the drive for better health. Dr. Yarros says: "All of us of long experience among the poor in their homes are absolutely convinced that social service is most needed if we are to do first class medical work, not only curative but preventive." Chapin speaks of the folly of giving medicine without knowing the living conditions and intelligence of the parents. Every physician who works in a clinic will see his point, remembering some foreign mother who has reported giving internally medicine that was prescribed for inhalation, or external application.

With this ideal in mind—to make the physician's work, both preventive and curative, as effective as can be—the question that next presents itself is, Where to begin? Where shall the first wedge be inserted? The best avenue of approach would seem to be through one of the special clin-

* Read at the Annual Meeting of the California Association of Medical Social Workers at Yosemite National Park, May 16, 1922.

ics—the children's clinic, maternity and prenatal clinic, or the tuberculosis, or luetic clinic—as the home conditions and family relations of any one of these groups of patients have such a direct bearing on the treatment of the patient.

Probably the clinic where social service work shows the most immediate results is the children's. Here a nutrition class may be started, and the results of the social service worker's efforts definitely checked by the weight charts. While the physician is studying the medical defects causing malnutrition, the social worker can study the social conditions that contribute, and many are the reports of their splendid achievements through co-operation. Mothers as well as children may be invited to attend such classes. Each child has his weight and height entered on a large individual chart, and the charts are displayed on the wall. Then the race begins. The physician gives instruction and advice, to individuals and to groups at these weekly class meetings; the loss or gain of each child is recorded on his chart, and for doing specific things a child may be given some award. The results are positive; each one is eager to be in the lead, and poor health is very unpopular. In learning the rules of health play forms an important part, and here the social service worker's opportunities are unlimited.

In the well-baby clinic the social worker has an exceptional opportunity to make the physician's instructions really count. By visiting the home and understanding the mother's problems she can better convince her that the physician's order for a four-hour feeding, for example, will be a help to her as well as the baby. So also it is only by an actual visit, to the home, that she can help the mother plan to give her baby a separate bed in a well-ventilated room.

Similarly in the clinic for tubercular patients, while the physician advises the patient and checks up on his clinical findings, the worker should visit the home to determine whether it is safe to leave a child with a tubercular parent, or whether it should be placed in a foster home. She, too, can help to find for arrested cases, new employment which should be light in character. At St. Luke's Hospital in New York City, social service work began several years ago with one graduate nurse who visited tuberculosis patients in their homes; they now have a large department with fourteen trained social workers.

In the maternity department the visiting nurse or social worker has a field where teamwork with the physician adds much to the service rendered the patient. Here the group method is especially worth while. At the Stanford prenatal clinic, while the patients are waiting for examination, the nurse demonstrates the important points in bathing and caring for a baby with a life-size doll, meanwhile answering their many questions and explaining to them the physician's instructions. Pamphlets and printed instructions amount to mere scraps of paper until the nurse makes them real; it is gratifying to see how enthusiastic the new mothers are about making their preparations after they have actually seen the trays and tables set up in the clinic. As Dr. Yarros has said:

"The social service person, knowing the economic conditions in the home of the patient is able to instruct in care and preparations in home confinements, for she knows what she is dealing with."

Any one who knows the difficulties of keeping the patients of a luetic clinic from drifting away after three or four treatments can readily see how necessary it is for the physician to have assistance in follow-up work, and it is apparent that the social worker is an important factor in building up the clinic, for it is through contact with the home that she is able to persuade other members of the family to come in for blood examinations and for treatments. Notices and letters will do a great deal in keeping patients faithful in their return for treatments, but the personal interview is indispensable in many cases.

As the social service department progresses, workers should be placed in other clinics where social work would be of value, such as the medical with its opportunity for instruction in cardiac and gastro-intestinal work. The physician's instructions to a cardiac patient would be worthless if the patient were obliged to climb several flights of stairs each day—the social worker can often effect a change to a first floor room. The special work with children with heart diseases which has accomplished remarkable results in some hospitals is credited largely to the social service department for this group of workers has carried the chief responsibility—children are taught to rest between flights of stairs; visits are made to the schools to make special arrangements for the children to have their luncheons in the classroom, or to be allowed to step out of line as the class passes upstairs, and take the grade slowly; follow-up work after tonsilectomies and dental work is carried on; group education with the mothers is conducted by social service workers, regulating the exercise of children and other needs.

With a fairly clear idea of how this social service work should grow in the various clinics, let us consider the personnel that is to carry on the work.

Of course it would be desirable to increase the staff of workers as the work grows, but it is seldom that a hospital is able to keep pace with the work in this way. A small group of well-trained workers, who can be leaders in their particular department, is far more satisfactory than a larger staff of commonplace workers with little vision regarding the possibilities of their work. Workers must be interested in the weekly conferences, must realize that all are there for study as well as to work; they must be willing to keep abreast of the new developments by reading, ready to come together to discuss cases intelligently, and to report on the community situations. They must understand the importance of well-kept case records, and be interested in keeping these up to date.

To supplement the work of the trained worker we find the volunteer a valuable asset. On the outside, medical students act as volunteers in making emergency calls, getting valuable experience in the home, and at the same time proving of great assistance to the department in the care of its patients. In the clinics volunteers may be used in

countless ways. Every wide-awake director must have learned from her experience during the war that there are vast numbers of capable women who, though untrained, became efficient workers during the war, and who now find life dull and lacking in effectiveness unless they are given something to do. In Bellevue Hospital the chief volunteer works eleven months in the year, five afternoons a week, and is a marvelous executive. She has a card index of some sixty-five volunteers and in co-operation with the social service director is responsible for placing these workers in the various clinics and through the hospital. She says that as she interviews the new applicants her two requirements are regularity and common sense. To hold their interest it is only necessary to keep them busy. At the University of California the social worker in the children's clinic is doing a great deal with volunteers, training them to teach health through occupational therapy work. Health lessons are taught by miniature theaters and children help to write the plays.

At Stanford we find a progressive system works out very well. Almost all new workers spend a certain amount of time in the children's clinic. There they weigh and measure children, take temperatures, and write up the preliminary medical history, using a regular printed form which is part of the history. They are given instruction in general hygiene and health habits for children and as they take the histories are able to help the mothers understand why children should not drink tea and coffee, and so forth. They are next given a little experience in the social service office, taking routine histories; later each one assists in some special clinic; each one also gives a little time, when the clinics are not too busy, to distributing books from our circulating library to the patients in the ward, thus becoming familiar with the inside of the hospital and getting an idea of the needs of the patients there.

The volunteers have recently organized and are planning a rummage sale for clinic patients, the money thus raised to be used in developing occupational therapy work. This work will belong especially to the volunteers, and they can watch and take part in its progress, at the same time finding a special place in the hospital life.

From time to time we have conferences with the various medical chiefs of clinics, not only for the social workers, but for the volunteers as well. This helps to solidify the volunteer group and tends to increase interest. In these conferences, and sometimes at staff meetings, we find that the physicians are grasping the idea that social service is more than mere financial investigation, and that the chief aim of the social worker is to make the physician's work with clinic patients count for more than heretofore.

These patients have the same laboratory, X-Ray, and nursing facilities that are accorded to private patients. When a patient is discharged from the hospital, let the social worker ask the physician: If she were a private patient, would you be satisfied to have her go home, where she must wash and cook for half a dozen children? Would you order her to the country? Would you let a pa-

tient with a weak heart go back to heavy work? It is the physician's responsibility to order convalescent care, light work, or change of occupation. If the city does not provide facilities for such care, it is the duty of the social worker, and of the social service boards, to educate the public to such needs in the community. The auxiliary boards often form the chief point of contact with those citizens who are able to do most to remedy these lacks in the community. For this reason it is important that, through committee meetings and conferences, the boards be kept informed of the needs of patients, in order that they in turn may keep alive the interest of the men and women outside the hospital field who can help improve existing conditions.

(Stanford University Hospital.)

Monthly Reports of County Secretaries to State Secretary—For two years the State Society has had in use a blank form for monthly reports of county secretaries to the State secretary and the editor of the Journal. This report was introduced by authority of the House of Delegates. It indicates the type of data that is needed in the central office, and particularly by the Journal for the preparation of county society and other county news items, which should be published every month in the Journal from every county in the State. By the end of last year, after much effort, the co-operation of nearly all the county secretaries had been secured, and these reports were being furnished quite regularly. With the advent of the new year, many secretaries were changed by election, and new county administrative officers must again be impressed with the importance of these reports, not so much to the State Society as to the individual counties themselves.

This situation furnishes a striking illustration of the difficulties inherent in State-wide organizations, where the administrative officers of the various units are subject to annual election.

Some Public Health Plans of the National Government—The plan for reorganization of the Federal executive departments was submitted to Congress by the President on February 15, though no bill was introduced and no action taken. The principal matter of interest to physicians is, of course, the proposed new Department of Education and Welfare.

Existing bureaus which would be transferred to this Department of Education and Welfare are as follows:

- (a) From the Department of the Interior: Bureau of Education, Indian Schools, Howard University, St. Elizabeth's Hospital, Freedmen's Hospital and Bureau of Pensions.
- (b) From the Department of Labor: Women's Bureau and Children's Bureau.
- (c) From the Treasury Department: U. S. Public Health Service.
- (d) From the War Department: Soldiers' Home.
- (e) From the Department of Justice: Office of Superintendent of Prisons.
- (f) Independent establishments: Smithsonian Institution, Federal Board of Vocational Education, National Home for Disabled Volunteer Soldiers, Columbia Institution for the Deaf and the Veterans' Bureau.

The department would have four divisions, namely: Health, Education, Social Service and Veteran Relief, each under an assistant secretary.—Bi-weekly Summary on National Health Legislation, Legal and Governmental Matters, issued by Washington office of the National Health Council, March 5, 1923

CEREBRAL SYPHILIS*

By NATHANIEL H. BRUSH, M. D.
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(From the Santa Barbara College Hospital)

The term "cerebral syphilis" is often used in speaking of or describing all phases and all stages of syphilitic involvement of the central nervous system. The use of this term as descriptive of a comparatively early syphilitic involvement of the nervous system is correct; its use when describing the later phases of the disease is quite incorrect and may lead to mistaken diagnoses. In a very broad sense the term is permissible, permissible from a nosological point of view, but from a diagnostic standpoint it is comparable to the diagnosis of a "fever" without any limitations or differentiations.

Anatomically, cerebral syphilis is divided into three forms: endarteritic, meningitic, and gummatous, the terms implying the pathological changes that take place, and, as we are not concerned for the present with the finer points in anatomico-pathological diagnosis, we will not elaborate on this.

In the differentiation between mesoblastic syphilis (for the purposes of this paper called cerebral syphilis) and paresis and tabes dorsalis there are many features that present themselves.

True cerebral syphilis is in reality a mesoblastic involvement or process, and generally speaking, as compared to paresis and tabes, both parenchymatous processes, an early involvement. I have personally seen one case with symptoms referable to the central nervous system occurring within six weeks of the initial infection. In this case the scars of the syphilitic rupia were still unhealed. However, the majority of authors give three to five years as the average time that elapses from infection to central nervous system manifestations.

In years gone by and before the elaboration of exact serology we were inclined to be hazy and uncertain regarding the connection between syphilitic infection and the development of paresis and tabes, but with the introduction in 1905 of the Wassermann reaction the etiology of these diseases became clearer, even then there were some physicians who shied at accepting syphilis as the sole cause of these diseases. Many admitted a possible connection, but even these men accepted the proof with reservations and hedged their statements by classifying paresis and tabes as meta- or para-syphilitic disorders. It was not until 1913 that Nogouchi and Moore, by their demonstration of the treponema in the brain cortex of paretics gave us absolute proof that these two diseases must be considered as active syphilitic processes.

Perhaps from what I have already said and from what is to follow, it will be concluded that a syphilitic infection will eventually result in an involvement of the nervous system. Such is not the case, though syphilis of the nervous system is a relatively frequent disease, some observers stating that from 2 per cent to 10 per cent of all syphilitics develop syphilitic disease of the nervous system. In this connection, I may be pardoned for a slight digression from my main theme.

All those who have studied the problems of syphilitic involvement of the nervous system have noted more or less frequently in paresis and tabes, and to some extent in cases of cerebral syphilis, that the initial infection in many instances is often very mild, in many cases unrecognized, and a large percentage of these infections are not followed by frank secondary manifestations. This gives rise to the conjecture as to the possible existence of strains of the treponema having a special predelection for the tissues and structures of the central nervous system.

But to return to the point at issue.

In cerebral syphilis we are dealing with a condition that has developed within three to five years of the initial infection and that, in itself, is an important point in the differentiation between this condition and the parenchymatous syphilitic processes.

The physical signs are diverse and it often requires careful observation and correlation of the facts to arrive at the correct diagnosis. Unfortunately, there are no absolutely constant diagnostic signs or physical findings by which we can arrive at the correct diagnosis.

The symptoms and mode of onset, however, may be of assistance. The most prominent symptoms being the rather acute onset of headache and dizziness, cranial nerve involvements, generalized or Jacksonian convulsions, not necessarily with loss of consciousness and often followed by permanent focal symptoms in the nature of hemiplegias and paraplegias. These occurring in an individual with a syphilitic history dating back three to five years should at once arouse in us the suspicion of the disease entity. In these conditions we are at times confronted by a mental picture, confusing at first, but on more careful observation it can be shown to be different from the mental picture of the typical parietic, and it is in the non-recognition of this mental reaction that so many faulty diagnoses occur. This mental reaction has been described by Adolf Meyer as the acute organic reaction, and its salient features are: confusion, delirium, auditory and visual hallucinations, and a memory defect involving recent events, these occurring without any slumps in the makeup of the personality.

In the diagnosis of paresis and tabes we are greatly assisted by the reflex changes and the pupillary reactions—by pupillary reactions I refer to the Argyll-Robertson pupil—but experience teaches us that the presence of the Argyll-Robertson pupil in paresis is by no means as frequent as text-books would have us believe. Many authorities claim that it is present in from 50 per cent to 75 per cent of all paretics, but my personal experience is that these figures are a bit too high. In tabes the Argyll-Robertson pupil is present in from 75 per cent to 80 per cent of the cases, some very radical authors stating that a diagnosis of tabes is not justified without the Argyll-Robertson pupil. But when we look for pupillary signs, especially the fixed pupil, in cases of cerebral syphilis we will find that the large majority of cases do not exhibit this phenomenon, and here we have a differential point of great importance. However, close ob-

*Read before the Santa Barbara County Medical Society on November 27, 1922.

servation often shows pupillary reactions of considerable diagnostic value, these reactions being sluggishness, inequality, and irregularity and taken in combination with the other elements of the case will prove helpful.

The reflex changes, so valuable in the diagnosis of tabes, will prove of little value in the diagnosis of cerebral syphilis, for the reflexes may be normal, increased, diminished, or absent according to the location of the lesion.

Serology in the differentiation of cerebral syphilis from tabes and paresis is the third important diagnostic feature. Fully 90 per cent of all paretics show the Wassermann reaction positive in both blood and spinal fluid. The spinal fluid of tabes is positive in fully the same percentage of cases, but the blood only in about 75 per cent of cases. It is this point that Plaut called attention to as a differential point between paresis and tabes. In cerebral syphilis the blood and spinal fluid may or may not be positive; the more acute and fulminating the case, the more liable are we to have a positive serology. It is the old chronic case that has remained stationary for a long time that shows the negative reaction.

We cannot draw very many conclusions from the globulin content and cytology of the spinal fluid. The presence of globulin and an increased cell-count speak only for inflammatory reactions taking place, and practically all cases of tabes and paresis show a moderately increased globulin content and a cell-count not too pronounced, but the spinal fluid in cerebral syphilis, being a more acute process, may have greatly increased globulin and a very high cell-count.

Much could be said regarding the treatment of cerebral syphilis. In these days of salvarsan, physicians are quite liable to overlook the old reliable remedy mercury. Salvarsan or arsphenamine is of extreme value in the therapy of syphilis of the nervous system but its value is increased by the judicious use of mercury. Mercury by mouth, by innunction, by hypodermic, but get the mercury into the system along with the arsenicals. Potassium iodide has its place as an adjunct to mercurial and arsenical therapy, alone the iodide is of no value whatsoever as it only helps in the elimination of various toxins and products disorganized and broken up by mercury and arsenic.

The method of administering salvarsan or arsphenamine must be worked out to suit the individual case. Shall it be salvarsan alone or salvarsan plus spinal drainage? These questions must be considered when we have studied the needs and analyzed each case separately.

To summarize:

1. As compared to tabes and general paresis, cerebral syphilis is an early involvement of the central nervous system. In the former the time that elapses from infection to development of symptoms is rarely less than ten years, in the latter the time is from three to five years.

2. The onset of cerebral syphilis is often acute with headache, cranial nerve involvements, etc., and a mental reaction that is fairly characteristic.

3. The Argyll-Robertson pupil occurs in fifty

per cent to seventy-five per cent of all cases of paresis and in seventy-five per cent to eighty per cent in tabes, its presence in cerebral syphilis is sufficiently rare to make it a differential point of importance.

4. Little value can be placed on the reflex changes.

5. Ninety per cent of paretics have a positive Wassermann reaction in the blood and spinal fluid. Ninety per cent of tabetics have a positive reaction in the spinal fluid, but only 75 per cent have a positive reaction in the blood. In cerebral syphilis the blood and spinal fluid may or may not be positive. The acute cases are the ones most liable to have the positive reactions.

6. A greatly increased globulin content and a high cell count point to cerebral syphilis.

7. Arsenical treatment with the assistance of mercury compounds is indicated.

Case of Ectopic Pregnancy at Term With Living Child—A diagnosis of pregnancy of about eight months with impending eclampsia having been made, an immediate cesarean operation was performed by B. J. O'Neill and W. W. Crawford, San Diego, Calif. (Journal A. M. A., March 31, 1923). The abdomen was opened by a right rectus incision, and a dark, bluish, smooth mass, resembling an ovarian cyst, was revealed. On palpation, fetal parts were felt, separated from the hands by a thin membrane, which ruptured almost at once, with a gush of water. The baby was lifted out in the usual way, the head offering considerable resistance. The cord was clamped, and the baby was revived by an assistant, with no more difficulty than is usual in a cesarean section. After removal of the child, there was a fair amount of hemorrhage, which was controlled by pressure with gauze. The uterus was somewhat enlarged. The left tube was about six inches (15 cm.) long, and the expanded fimbriated extremity was directly continuous with the cavity formed by the membranes. The placenta was thin and widespread, being planted on the posterior surface of the left broad ligament and on the sigmoid and the intervening pelvic wall, besides being adherent to both the large and the small intestine. The placenta thus formed the left and upper side of the sac. The left ovary was not identified. Actively bleeding vessels entered through adhesions from the large and small intestines, and some very large vessels entered the placenta from the broad ligament. The baby, a boy, weighing six pounds and three ounces (2800 gm.), had hair and well-developed nails, indicating birth at practically complete term. The skull was somewhat deformed from resting on the sacrum, and there was a moderate calcaneovalgus of the right foot, a marked talipes equinovarus of the left foot and a partial dislocation of the left hip, with indication of some bony pathologic process in the left knee. The post-operative course for both mother and child was uneventful.

National Board of Medical Examiners—The National Board of Medical Examiners will conduct examinations as follows:

Part I, June 25, 26, 27, 1923.

Part II, June 28, 29, 1923.

Part I, September 24, 25, 26, 1923.

Part II, September 27, 28, 1923.

All applications for these examinations must be made on or before May 15.

Further information may be obtained from the secretary, J. S. Rodman, 1310 Medical Arts Building, Philadelphia, Pa.

THE PSYCHONEUROSIS AS A PROBLEM FOR THE GENERAL PRACTITIONER *

By C. P. KJAERBYE, M. D.

The great danger which is threatening the progress and proper valuation of modern ideas in psychiatry, is the tendency of scientific men to lose their grip on the methods and tests which they have been trained to apply, as they are too easily enthused over the apparent facts, which modern psycho-pathology claims.

Another danger is the fact that a great part of the investigations into mental activities are undertaken by men and women, who lack the proper training in neuro-psychiatry and medical science in general, and these men are creating daily a number of understudies who are still more deficient in knowledge and training, and who are spreading for public consumption their theories, presented as facts, and mental experiments without the proper scientific control.

The public interest in Freudianism and other forms of psycho-analysis is a result of this propaganda, and this new public fad represents a physical and moral danger which can only be averted by a concerted and intelligent action of the medical profession. This duty makes it necessary for the physician to be informed sufficiently to put the public right on these modern questions.

As our old friend, or enemy, psycho-neurosis, is with us all the time, and represents either totally or partially an important issue in over 50 per cent of all cases the physicians are handling, it seems proper to try to come to some definite understanding of a working basis.

Every human being has a physical endurance-level, and a mental endurance-level—the threshold—which cannot be strained or overstepped for any considerable time with impunity; and while the two levels vary relatively, every physician clearly recognizes that there is a close relation between them. Medical science has succeeded in analyzing and determining the physical threshold and in raising the same to a higher level by proper treatment and hygiene. To disregard the facts obtained by this work when considering the mental threshold, would be illogical and dangerous, as every physician daily observes how closely the two thresholds are related.

We physicians observe the beneficial and curative effect on nervousness in children by regulation of diet; our patients acquire a new mental impetus as well as physical improvement following the removal of affected tonsils, adenoids, teeth, and other seats of focal infection; clearing up or curing chronic intestinal troubles affects the patient's mental attitude and consequently his general behavior. It is admitted, of course, that some cases cannot be reached by methods now known to the profession, this because of either our present ignorance, or because of the too long-standing or inherited condition having produced physical changes resulting in mental attitudes that cannot be changed because of the fixity of the changed condition of the organisms. Furthermore, the profession real-

izes that inherited weaknesses cannot be eliminated entirely, but may, and often are, held in abeyance or ameliorated by proper precautions and early treatment.

Experience has convinced me that neurosis as a disease is due to a low mental or physical endurance-level, and while this idea is used now only as a working theory, I am convinced by numerous observations that it is justified.

An overfed child, with irregular habits, will present a picture strikingly resembling hysterical or anxiety neurosis; an overtrained athlete, with his lack of "pep" and interest, has all the earmarks of a neurasthenic; the different mental reactions of patients to identically the same surgical operation are well known to every surgeon, and the neurotic character of these reactions is very apparent. While many of these cases are to be explained as an overstepping of the physical endurance-level, we sometimes see cases of strong and robust men and women react badly to pain, shock and other exciting causes, while weak and delicate women stand them well. While this may in due time be explained, when the study of endocrinology has been more advanced, we must at present admit, that the mental and physical endurance levels do not always run parallel.

If we consider a low mental endurance-level the cause of psychoneurosis, we will then have to determine:

First. The hereditary causes of this condition and the physical condition in childhood which influenced the same.

Second. How early, and by what means, can this threshold be determined.

Third. What symptoms point to the fact that this threshold has been overstepped.

Fourth. After this threshold has repeatedly, and, we may say, pathologically, been overstepped, how can we bring the patient back to his original condition?

Fifth. How can this level be raised? Is it possible to do this only in early life, and must we be satisfied, in the case of grown persons, to restore them to comfort within their original threshold, and guard against overstepping the same in the future?

To understand this mental threshold, the symptoms of its overstepping, and the treatment of patients, it would be a mistake to disregard our experiences in the physical sciences which have brought us an abundance of knowledge and results, and which have proven the numerous connections between the mental and physical conditions in the same patient.

When the psycho-analyst succeeds in finding the repressed thoughts and subconscious complexes which are causing the present symptoms, and by bringing them into daylight removes the symptoms, he is doing excellent work; but the condition in the patient which caused him to repress and form complexes and which made the repression produce the symptoms, is still there, and it is clear that they are only removing the symptoms, and the condition or disease that produced the symptoms still remains. A normal person represses thoughts

* Read before the Fresno County Medical Society, November 7, 1922.

and wishes every day of his life without producing any complexes in his subconscious mind—at least, they do not harass him in later life in dreams, or in the form of neurotic symptoms when awake.

The principal fault of the psycho-analyst is not the work he is doing, but the work he neglects to do and the important factor that he overlooks: the discovery of the original cause of the condition and the means of preventing and curing the original disease is the important thing and the one thing that will result in a permanent cure. He, it seems, ignores the physical condition that may at the particular time of the patient's life be instrumental in accentuating the symptoms. Study of mental operations and mental attitudes through psycho-analysis, hypnosis and kindred methods has been invaluable to the medical profession in explaining the various steps in the development of symptoms of neurosis, and has been valuable in the knowledge of the mental mechanism as a whole, but these studies and researches and methods have not brought us to any better understanding of the causes of disease and the means of prevention of disease. To accomplish work of real value there must be co-operation between the family physician, the psychiatrist and psychologist, with the assistance of our splendidly trained specialists in other lines. In other words, the co-operation of the whole medical profession, and a better training of its members in psychology, offers the best hope for the future establishment of a true science of psychiatry.

In order to realize the importance of this co-operation and the importance of a scientific understanding of the physical condition in the determination of the diagnosis and treatment, let us examine further the problems of psychoneurosis:

First. No one questions the importance of physical facts in heredity in mental cases, syphilis, alcoholism, tuberculosis, and other disorders. Birth-trauma, infant-feeding, early diseases, early symptoms—in short, accurate and complete detail history of the case is recorded and often proves invaluable in determination of diagnosis and treatment.

Second. The final determination of the mental threshold in the young cannot be made until all physical conditions influencing the same are corrected. Every physician has seen the child who has been inattentive and dull at home and in school changed to an alert and bright pupil, and normal, active child, by the removal of tonsils and adenoids, or the correction of refractions. He has seen nervous, easily frightened children, with morbid fears, completely recover after regulation of diet, proper tonic and disappearance of diseased conditions of the kidneys.

It is only necessary to mention the influence of thyroid feedings in the cretin child to bring before us the connection between mental and physical ailments, and remind us of the importance of the endocrine system to the mental workings all through life. But too well we physicians know that, after we have removed, according to our present knowledge, all physical defects, there are still children who easily become mentally exhausted and unbalanced. A mental test in any of the many

forms, used by an intelligent doctor, will soon determine whether or not he is dealing with a case of arrested mentality, and such cases will, of course, not be considered in this article. But the cases here considered must be dealt with intelligently. We all know that it is the duty of the family doctor to point them out early, advise the parents, and call in help when he deems it necessary.

Third. A close and intelligent co-operation between parents, teachers, and family physicians will early discover the symptoms, and treatment can be given before it is too late.

Fourth. The treatment of the psychic-neurosis and the prevention of their recurrence is too big a subject for this paper, but a good working knowledge of this subject is an indispensable part of the family doctor's armamentarium.

Fifth. In raising this mental threshold or endurance-level, we are confronted with a most difficult problem, but to resort only to mental methods and neglect the physical corrections would be no less than criminal. The results obtained by these physical corrections are most encouraging, and as the science advances, are bringing better and still better results, and the earlier in life and more thoroughly they are done, the more gratifying have been the results. By results already attained, the profession must be convinced that it is fighting along the right lines and proceeding in the right direction. It would be foolish, if not indeed criminal, for the profession now to cast aside these valuable experiences and rely only upon modern, and often poorly trained, psychologists, to treat the patient. Far be it from me to underestimate the value of the psychologist's work in determining the mental status of the patient, but like the laboratory test, his work is only a single part of the total work, and is of value only when considered in connection with the full clinical and pathological picture.

It is self-evident that the mental test in case of praecox, C. S. syphilis, neurosis and like diseases, standing alone, does not bring us any nearer to the diagnosis. The modern determination of the physical threshold in cases of diabetes, arteriosclerotic nephritis, tuberculosis, etc., furnish excellent comparative examples, and it is only logical to work along the same lines when we consider the mental threshold, because the nervous system is the organism through which the mental functions evidence themselves. The psyche or mentality is either the function of the nervous system, or some superior or independent force functioning through the nervous system. In either case it is evident that this system's working capacity, endurance-threshold, and deviation from normalcy, must be studied, sustained and repaired according to the same principles which govern the other parts of our anatomy.

Dinner for Women Fellows of the A. M. A.—A dinner in honor of the women physicians attending the American Medical Association Convention will be given at the Fairmont Hotel on Thursday, June 28, 1923, at seven o'clock p. m., under the auspices of the women members of the California State Medical Association. For information Louise B. Deal, Chairman.

THE APPLICABILITY OF ALKALINIZATION IN THE TREATMENT OF TUBERCULOSIS*

By FRANK PORTER MILLER, M. D.

In this discussion we will assume that the constituents of body cells are composed of molecules of colloid material, and these are quite susceptible to the medium in which they are surrounded, whether that be acid or alkaline.

In practically every act of the body, whether it be the voluntary act of muscular exercise or the involuntary processes of metabolism, there is always liberation of acid. Normally, the tendency of the body is to swing toward the acid side, and this would occur uninterruptedly were it not for the fixed bases within the body. The equilibrating body which tends to maintain a normal balance is the alkali reserve.

Any condition in the body which is associated with a pyrexia of long standing must be associated with an acidosis. It will be our attempt to show the efficacy of alkalization when the acidosis is due to a tuberculous foci. There is one principle which we should ever bear in mind; i. e., an inadequate supply of oxygen to any portion of the body or the incomplete removal of oxidative products, favors the production and accumulation of acid, and this predisposes to tissue solution.

The body as a whole should be considered as a composite mass of cells with a complex chemical construction, receiving its sustenance through the blood stream. The blood carries in solution or suspension the various products of metabolism or assimilation, and by the proper interchange of absorption and elimination, factors are maintained which promote health. In event a perversion of any of these processes occur, there is a functional or physiologic derangement, which, if persisted in, will produce pathologic changes.

From a physiologic viewpoint the blood should be considered as holding in suspension salts, cells, and other organic and inorganic material. It is alkaline or neutral in reaction, and the principle alkalies which it possesses are the sodium and potassium, carbonates and phosphates. The alkalies also constitute a dominant place in protoplasm, as they hold in combination the albumins with which they are combined. There seems to be a tendency on the part of the body organism to maintain its own alkalinity, and in the event there is a reduction, serious changes may occur. The presence of fibrin in blood plasma should also be borne in mind, and its precipitation or coagulation in certain pathologic lung conditions as pneumonia is well known. Fischer attributes this to acids, or an excess of alkali, principally the former. Another cause is the presence of any foreign body in the blood.

The chief function of a red blood corpuscle is that of a vehicle for the gaseous elements. They carry oxygen from the lung to the tissues, and promote the elimination of carbon dioxide from the body. To provide adequately for these changes,

hemoglobin and alkalies must be provided. Hemoglobin in a highly complex protein body, which is able to combine with oxygen, but unable to oxidize it. Because of its ready power of dissociation it acts in a dual role, furnishing the oxygen for oxidative purposes, and withdrawing the chief metabolic offender—carbon dioxide. Carbon dioxide and carbonic acid are principally the end products of any tissue change and metabolism.

A study of the gaseous exchange which is of such vital importance to cellular life is the next step. We find the blood corpuscles contain carbon dioxide and carbonic acid in solution as, phosphates, carbonates, or bicarbonates of sodium and potassium, or as methemoglobin, and convey these substances to the excretory organs of the body. Remembering the diffusibility of gases, and since the tension of oxygen in air is greater than that of the blood, and the tension of carbon dioxide in blood is higher than the outside air, the exchange can readily take place. Naturally, the oxygen of the air passes through the lungs into the hemoglobin in exchange for carbon dioxide and carbonic acid. When this occurs the alkalies are liberated in blood and again assume the function of combining with carbonic acid affinities.

Try and conceive of a picture where there has been an interference in the cycle of exchange of oxygen, carbon dioxide, carbonic acid, and a withdrawal of alkalies. In the first place, a diminution in the supply of oxygen produces cellular acidosis. The affinity of carbon dioxide for water increases the amount of carbonic acid in the blood and tissue, and this produces acidosis. Furthermore, the withdrawal of alkalies from the albumins in solution increases the viscosity of the blood. Any factor which increases blood viscosity reduces the velocity of the blood stream, unless the force behind this is appreciably increased. May not this be a factor in the production of acute dilatation of the heart, which is the terminal manifestation in most tuberculous cases?

The pathology incident with pulmonary tuberculosis is the formation of the tubercle, surrounded by a collateral zone of inflammation. In the process of evolution the capillaries which course to the tubercle undergo certain changes, particularly an endarteritis, and this factor inhibits the normal supply of oxygen reaching the part, and also the incomplete removal of waste products. Carbonic and lactic acids are continuously being formed within the tissue, and the presence of toxins, generated by bacillary infection, plus an increase in H. ion concentration will ultimately produce destruction of lung parenchyma. The evidence adduced by Bradley & Taylor relative to synthesis and autolysis in tissue is extremely interesting. They have shown that when the reaction of the blood swings toward the acid side the reserve protein is transformed into available protein and this undergoes autolysis. They are of the opinion that a greater blood supply and a more complete removal of waste products will reverse the process and lead to laying down of reserve protein and, therefore, to growth of the cell. It is quite plausible that the point of equilibrium being shifted

* Read before the 67th Semi-Annual Convention of the Southern California Medical Society, Los Angeles, November 3, 1922.

would bring about autolysis on the one hand and synthesis of tissue on the other. When we deprive an organ, such as the lung, of its oxygen supply by preventing the normal influx or preventing the normal efflux, the resulting accumulation of acid is obvious, and as the buffer substances become largely exhausted, there is precipitation of colloids, and naturally those which are first attacked are within the lung or that portion of the body, where the oxygen supply is poorest and the production of acid greatest.

In prefacing these remarks we stated that the body cells were composed of colloid molecules. If we are to accept the classification of Fischer, we find two types of colloids. Those which are viscous, gelatinizing, and not readily coagulable with salts—colloid in solution, and those which are non-viscous, non-gelatinizing, or colloid in suspension. The essential difference resides in their relation to the solvent. Those which are in close association with their solvent are known as hydrophilic colloids, and a reverse of the above is known as lyophobic colloids. Fischer is of the opinion that all colloids swell in the presence of acid, and this is probably the first act in the precipitation of lung colloids.

We also know that Vaughan has separated glutamic acid and other split proteins from the tubercle bacilli, and acid is probably produced by the mixed infection which is always present. One other source for the production of acid, and that again recalls viscosity of the blood. Raising the viscosity of blood prevents the removal of acids which are continuously being liberated in the tissue. The aforementioned gives us multiple sources for the production of acid, and, as Stern has attempted to show, the soluble colloid may then be converted into a gelatinizing mass, and then we have the pathologic picture of a pneumonic area surrounding the tubercle. I mention the last as a probable sequel to production of acid, and this may account for the pathology, but as yet the evidence is rather inconclusive. Allow me to recapitulate quite briefly the source of acid production, so this point may be quite clear. First, a diminution in normal oxygen supply producing cellular acidosis. Second, the affinity of carbon dioxide for water, producing an excess of carbonic acid. Third, increased viscosity reducing velocity of blood current, and inability to remove oxidative products. Fourth, production of acid in the metabolism of foods, and which I will discuss later. Fifth, acid produced by the specific organism, and also those due to mixed infection. Consider the above-mentioned plus hypoalkalinity, due to the withdrawal of alkalies, and then we have a rational indication for alkaline therapy. With the advancing acidity, cell proteolysis, increased hydration, and the conversion of colloids into a gelatinizing mass, we then have the end product from a theoretical viewpoint. Whether this occurs as an actuality, I am unable to state.

Alkalinization can be largely accomplished through the dietary, and, to thoroughly interpret this, it is essential that we decipher, in a measure, the elements in our diet.

In the metabolism of proteins not inconsiderable amounts of acid are formed. If the proteins are improperly used, or used in excess, not only are amines formed, but also toxins are formed which act as acids. In the destruction of this group the amino-fatty acids which are formed are not only acid, but alkaline as well, and as commonly expressed amphoteric. The general opinion is that the action is usually an acid one, and this amphoteric action may be an attempt on the part of nature to compensate for an excess of either acid or alkali within the body. Also in the metabolism of fats, if an insufficient amount of carbohydrate is present, diacetic and beta-oxybutyric acid are formed. A protein diet yields after oxidation in the body 25 per cent excess of acid, while a vegetable and fruit diet yield 25 per cent excess of alkali. It is easier and better for the patient to be liberal with his diet, but to protect him against the effects of an excess of acid by a continuous feeding of alkali where the urine remains persistently neutral to litmus.

In treating tuberculosis, no attempt should be made toward a drastic revision of the dietary, but we should strive for a balance. From the foregoing remarks, one might feel that we were attempting to minimize the protein intake, but such is not the case; it is only for balance that we plead. Fifty per cent of the patients which come under our supervision are "meat eaters," and you will have to teach these patients to eat vegetables. As taste is merely a cultivated matter, these patients will soon "fall in line" if shown the efficacy of a dietary rich in alkalies. I think we sometimes fail to get the optimal benefit of our alkaline therapy, because too little attention is directed toward diet. This cannot be supervised too closely.

Vegetables are combined with bases and weak organic acids which are mostly oxidized to a respirable carbonic acid. There are a few of weaker organic acids, such as oxalic, tartaric, and benzoic, which cannot be oxidized in the body. Foods high in mineral acids or those organic acids which cannot be converted into carbonic acid should be avoided, unless special pains are taken to give with such foods an adequate supply of alkali to neutralize the acid.

It might be well to recall that the vegetables possess a great many salts, and that these will inhibit the precipitation of colloids by rendering the acids inert. This is probably accounted for by the fact that the acid within the cell is replaced by the radical of the added salt.

It would be more or less academic to give a complete list of foodstuffs and their constituents. They may be classified into three divisions. First, those foods which are neutral in action. Second, those which are acid in action. Third, those which are basic or alkaline in character. The latter group comprise all vegetables, fruits, and practically all nuts. The fruit juices are quite palatable, and most of these possess citrates and malates, and much to be desired. In giving fruit juices it is well to bear in mind the high percentage of carbohydrates, and may not be well borne. Two or

three exceptions may be noted in the fruits, viz: plums, prunes, and cranberries.

In the recovery from disease it is essential that the process of restoration be as complete as possible, and that we restore the normal physiologic activities which were in existence prior to the alterations produced by the disease. Our success is entirely dependent upon our ability to reproduce a metabolism within the lung which approaches the normal. In choosing food products, show a preference to those in which the organic acids are readily oxidizable; also those which possess a high content of citrates, malates, tartrates, and benzoates, and preferably with a sodium and potassium base. Ingestion of the above in sufficient quantity will preserve a normal balance of the albuminous substances in the blood and tissue.

Relative to drug therapy, we should give a product which replaces the alkali residents within the blood.

Sodium citrate has been advised in the treatment of pneumonia for quite some time, and its success justifies its continuance. Good results have been obtained, because within the body it is converted into sodium carbonate. The thought may enter the mind of a good many that we probably should give sodium citrate in beginning our alkalization. This is unwise, as the drug is very irritating to give per mouth. In giving it in solution per rectum it can only be continued for a short period, because of its irritating effects.

There is one other drug which I wish to mention. One that has been used, discarded, used again, with varying degrees of success. This drug is calcium. It is a notorious fact that the workers in the vicinity of lime kilns develop an unusual immunity against the disease. An analysis of the air discloses the fact that there are certain particles floating in the air, and usually these are calcium oxide or calcium sulphate. To claim specificity for this drug is only a narrow conception, and the good results are obtained by raising the alkali reserve within the body. Lime in the presence of water forms calcium hydroxide, and this is caustic or antiseptic, but not to the point of having bactericidal action when within the body. The administration of calcium salts per mouth and intravenously does not seem as efficient as the inhalation method. The deposition of lime salts which occur in healing is another factor for their use.

A great deal of alkali may be administered through the intake of water, and we usually give some alkaline water, either natural or artificial, and it is immaterial whether this be carbonated or still. A favorite of ours is Kalak water. This possesses the bicarbonates of sodium, potassium, calcium, and magnesium. When acidosis is present all the bases of the body are drawn upon. How many of us in the past have attempted to alkalize our patients by the use of sodium bicarbonate alone? Sodium bicarbonate is insufficient for a number of reasons. Our primary object is to rid the body of carbonic acid, and since sodium bicarbonate is saturated with carbonic acid, it makes a poor carrier. We should prescribe something which in the body is readily convertible into the carbonates and phos-

phates. Furthermore, by giving the bicarbonate of sodium, we only replace the sodium base within the body. A methodical method of introducing the water is now essential. It is well to give a glass of water every hour through the waking hours. This will permit of at least two quarts being taken each day. It seems to me that there is only one possible objection could be offered to this vigorous administration of water; namely, it will remove through the kidneys various salts which are beneficial.

EXPERIMENTS ON THE BACTERICIDAL ACTION OF THE VIOLET RAY

By EVELINE BENSON FISHER, Pacific Grove.

Through Dr. T. C. Edwards of Salinas and his interest in the Violet Ray and its action, a series of experiments were conducted in the laboratory relative to the bactericidal action of the Violet Ray.

A culture of staphylococcus pyogenes aureus was obtained from an active case of furunculosis. A minute sub-cutaneous dose of this culture was administered in two minims of normal salt solution to a guinea pig, after a white cell count had been taken. The first leucocyte count was 7,200; the next day it went to 8,000, and the third day to 8,300 with considerable irritation at the point of inoculation. The fourth day, the count was 9,000. Counts taken after the fourth day showed a steady decrease of white cells until recovery.

The remaining portion of the culture of staphylococcus was given a five minute Violet Ray treatment, which was applied to the outside of the culture tube. A transplant was then made. After twelve hours the transplant had an abundant growth. The same treatment was given daily for four days with no apparent effect on the organisms. Thinking the glass tube interfered with the action of the rays, we inserted the glass Violet Ray 'spark tube' into the culture media and gave it longer exposure. This was also done for several days. The longer exposure was sufficient to melt the agar-agar media, but had no effect upon the growth of bacteria so far as could be observed from the daily transplants.

When its virulence was tested out by inoculating a guinea pig with two minims of this culture the result was practically the same as was obtained on the pig receiving the culture before it was treated, showing that the culture was just as virulent after exposure to Violet Rays as before.

At the time of these experiments, Dr. Edwards was treating furunculosis with the Violet Ray and cured many cases after three treatments on successive days with a five to eight minute exposure. He said, the more acute the conditions were, the more quickly they responded, if treated early. One case of beginning infection on the neck was entirely relieved after one treatment. Dr. Edwards also reports a case of folliculitis decalvans (diagnosed as such by Dr. Howard Morrow, of San Francisco) that was showing very marked improvement after thirty days of treatment. The patient left Dr. Edwards at that time,

so that he was unable to ascertain if the improvement was permanent.

Another series of experiments gave the following results:

A white cell count was made on a patient suffering from furunculosis, and showed 8,500 leucocytes before treatment, and, six hours after a five minute treatment, the leucocytes had increased to 10,000. The following day the same patient had a leucocyte count of 10,600 before treatment and of 11,800 six hours after, with a treatment of the same duration as the previous one. On the third day the count was 11,000 before, and 12,200 after treatment, the boils were drying up and the soreness leaving. The fourth day the count was normal, of 7,800; and no further treatment was necessary.

The same plan of observation was carried out on six cases of furunculosis, under Violet Ray treatment, the table (Fig. 1) shows the daily

Influence of Various Symptoms in the Prognosis of Pulmonary Tuberculosis—The comparative value of certain symptoms in cases of pulmonary tuberculosis which aid clinicians to predict for their patients something of their ultimate chances of recovery is discussed by F. B. Trudeau, Saranac Lake, N. Y. (Journal A. M. A., March 24, 1923), on the basis of the present condition of 980 patients. The way the disease began apparently plays little or no part in determining its future course. Only 53 per cent of these patients whose sputum was positive are well and working, as contrasted with 79 per cent among the negative cases, while the mortality among the positive cases, from five to eleven years after discharge, is 32 per cent, as compared to only 6 per cent in the negative cases. Sixty-one per cent of the hemoptysic patients are well and working, as compared to 65 per cent of non-bleeding patients, while the death rate is practically the same for the two types of cases; namely, 23 and 22 per cent. The beneficial importance of a gain in weight is very evident. More than 67 per cent of these showed a gain in weight averaging 8½ pounds (3.8 kg.), as contrasted with only 28 per cent who

Day	First		Second		Third		Fourth		Fifth	
	Before	After	Before	After	Before	After	Before	After	Before	After
1	8,500	10,000	10,800	11,000	12,200	10,000	7,800		No Treatment	
2	9,000	10,000	11,500	11,800	13,000	10,500	9,000	10,000		
3	7,500	10,200	10,800	11,000	11,400	8,200	10,000	9,000	7,000	
4	10,000	11,000	11,500	12,000	13,000	11,000	9,000	10,000	9,000	
5	9,000	10,000	12,000	12,500	13,000	10,000	8,000			
6	11,000	12,200	12,700	13,000	14,000	12,200	10,000	10,000		

Figure 1. Showing the daily leucocyte count on six cases of furunculosis before and after each treatment.

leucocyte counts made on each patient before and after treatment.

Pus was taken from four of the cases, on the third day when the boils were at their worst. Cultures were made in each case, and there was an abundant growth after twelve hours. Three contained pure cultures of staphylococcus pyogenes aureus and one, staphylococcus pyogenes albus.

As a control, leucocyte counts were made on two patients suffering from boils on the neck (staphylococcus aureus) and receiving no Violet Ray treatment. The counts are shown in (Fig. 2.)

Day	First	Second	Thrd	Fourth
Pt. 1	8,800	9,200	9,000	9,000
2	8,200	8,000	8,500	8,400

Figure 2. Showing the daily leucocyte count on two patients not receiving treatments.

These experiments seem to indicate that the benefit derived from the Violet Ray is not from its ability to destroy bacteria but rather its power to increase the number of leucocytes. When we failed to inhibit the growth of bacteria with the treatments, and before Dr. Edwards saw the results of the laboratory work done, he concluded that at least part of the benefit came from the increased blood supply to the part, which was shown by the intense hyperaemia after each treatment.

(Pacific Grove, California.)

lost weight, and approximately 5 per cent whose weight remained stationary. Among those who gained, the figures for the "wells" and "deads" are 67 and 20 per cent, respectively, contrasted with 57 and 27 per cent of those who lost weight. Patients whose weight remained stationary did practically no better than those who showed a loss of weight. The symptomatic importance in prognosis of the pulse is emphasized. Cases are rated as "pulse positive," in which a pulse rate of 90 or over persists for five consecutive days, and diagnosis fails to reveal any other cause than tuberculosis. Sixty-nine per cent of the negative pulse patients are well and working, as compared to only 49 per cent of those having tachycardia, while only 16 per cent of the former class are dead, as compared with 38 per cent of the latter. Cases are classified as "fever positive" when the patient's temperature was 99.5 F. or over for five consecutive days, which could not be explained by any other cause than tuberculosis.

The Problem of Preventive Medicine—This problem is discussed by Samuel R. Haythorn, Pittsburgh (Journal A. M. A., March 31, 1923), under two general headings: (1) influences that are developing an ever-increasing demand for disease prevention in the practice of medicine, and (2) preventive medicine in the medical curriculum. Haythorn urges that the teaching courses in all departments be reviewed thoroughly, with the object of stressing successful preventive methods for the benefit of the students. The teaching should be carried out with a view to informing the student of the best preventive measures available, and should be directed toward preparing him for leadership in progressive health movements. If the public is convinced that the physician and student are doing everything within their power to decrease sickness and prolong life, there is no danger that it will not continue to extend to them the protection and support they have always enjoyed.

EDITORIALS

THE HEMOSTATIC ACTIVITY OF THROMBOLASTIC AGENTS

In discussing the physiological effects of blood-letting in his "Medical Treatment of Disease," Rudolf¹ quotes results of his previous work² to the effect that the coagulation-time of blood is more surely hastened by hemorrhage than by any other means tried. This is strictly in accordance with the results of physiologists and pharmacologists³ who have found that repeated, small hemorrhages in dogs tend to shorten the coagulation-time of blood.

It is obvious, therefore, that any method for the biological standardization or evaluation of hemostatics,⁴ including the thromboplastic agents (thromboplastin, kephalin, coagulen, coagulose, hemostatic serum, etc.), which involves repeated bleeding, cannot be accurate, and is misleading. The evaluation of clinical results with thromboplastic agents in bleeding conditions is obviously hampered by this same tendency to spontaneous limitation of bleeding, which may be regarded teleologically as a biological protective mechanism.

Scientifically, a reason why bleeding tends to stop spontaneously is suggested from the work of Howell, who contends, on the basis of considerable proof, that the tissues (tissue juice) are the seat of the natural thromboplastic agent (kephalin) rather than the blood, so that as the blood from a wound trickles over the lacerated tissue, therefore, tissue juice, which contains the kephalin, clotting is spontaneously initiated. Only an exceedingly small quantity, or concentration, of kephalin is necessary for this, and there is no good evidence that tissue juice is lacking in this constituent. On the contrary, kephalin appears to be abundantly present. It follows from this that the treatment of hemorrhages by the local application, injection or oral administration of kephalin and other thromboplastic agents is superfluous. When these agents are combined with other measures, such as pressure, ligation, etc., it is illogical to attribute the beneficial effects to the hemostatic agent.

In view of the facts that the process of blood coagulation and the etiology of hemophilia are not fully understood, it is apparent that positive assertions regarding the thromboplastic agents as etiologic and beneficial therapeutic remedies in the treatment of hemorrhages and hemorrhagic conditions are unjustified. Out of the entire list of such agents, only one has been isolated and identified chemically; namely, kephalin. Another, the thromboplastin of Hess⁵ is a mixture of various constituents, one of which may be kephalin. Neither of these two preparations is secret. The methods of preparing them have been published and both have been studied physiologically and pharmacologically. Both are accelerators of plasma and blood coagulation *in vitro*, but when it comes to their evaluation and therapeutic application *in vivo*, nothing definite or certain is known. For various reasons (secrecy of preparation and composition,

unscientific testing, etc.), the remaining preparations of the thromboplastic type merit no consideration, several having been found to be inactive, the claims and wide commercial exploitation of interested promoters and manufacturers to the contrary notwithstanding. The preparation called "fibrinogen," which is the commercial name for a tissue fibrinogen, recently prepared and described by Mills and co-workers,⁶ requires further investigation before it can be claimed to possess undoubted thromboplastic activity when given by mouth and subcutaneously. With thromboplastic agents it seems to be so many times that, "Others rush in where angels fear to tread."

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- ¹ Rudolf, R.: Medical Treatment of Disease, 1921, p. 257, Toronto Press.
- ² Rudolf, R.: Tran. Assoc. Am. Physicians, 1910, 25: 504.
- ³ Howell, W. H.: Harvey Lectures, 1916-17, Series XII, pp. 273-324; Hanzlik, P. J., et al.: J. Pharm. Exp. Therap., 1919, 14:157, 189, 229; Drinker and Drinker: Am. J. Physiol., 1915, 38:233; Gray and Lunt: Am. J. Physiol., 1914, 34:332.
- ⁴ Hamilton, H. C.: J. Am. Pharm. Assoc., 1920, 9:118; J. Lab. Clin. Med., 1920, 5:574.
- ⁵ Hess, A. F.: J. Am. Med. Assoc., 1915, 64:1395.
- ⁶ Mills, Dorst, Mynchenberg and Nakayama: Am. J. Physiol., 1923, 63:484.

DECOMPOSITION OF COCAIN SOLUTIONS BY BOILING AND ON STANDING

Opinions and reports regarding the decomposition and keeping qualities of cocain solutions have varied from time to time. Formerly cocain was thought to be readily decomposed by boiling. In recent times it has been generally accepted that boiling for fifteen minutes to half an hour does not alter the activity of cocain solutions. However, variations in anesthetic qualities, and accidents continue to be reported, and these might be connected with the chemical reaction of the solution. Chemically cocain is an ester. Hence, it would be expected that chemical reaction influences its decomposition. The matter had never been investigated until recently by Rippel of the Pharmacological Institute at Rostock, who prepared solutions of cocain hydrochlorid of known chemical reaction—that is, hydrogen ion concentration (pH), and kept some standing at room temperature and boiled others for one hour. The solutions were then tested biologically on the excised heart of the frog, which is very sensitive to the drug, the majority of hearts showing depression with concentrations of 1 : 50,000. The biological test was carried out by first finding out the depressant concentration of the freshly prepared cocain solution; then the heart was allowed to recover and, when recovery was complete, the treated cocain solution was applied and the depressant concentration of it determined.

Using the heart test in this way, Rippel found that a 1 per cent cocain solution of weak alkaline reaction (a trifle more than that of blood; i. e., pH = 7.8), which had stood at room temperature for eight weeks, lost 80 per cent of its activity. Boiling the same solution for one hour caused a decomposition of 85 to 90 per cent. A neutral solution (pH = 6.9) had decomposed to the extent of 60 to 65 per cent after standing for sixty-three days at room temperature, and to the extent of 60 to 70 per cent when boiled for one hour. Cocain solutions with a degree of acidity

similar to that of urine ($\text{pH} = 5.8$) lost about 40 per cent of their activity on standing for sixty-two days. At a still higher degree of acidity, i. e., about like that of gastric juice ($\text{pH} = 4.3$), there was no demonstrable decomposition at the end of sixty-two days or on boiling for one hour. Therefore, solutions of cocain were found to be stable on standing and by boiling only when kept rather strongly acid.

The following simple directions are given by Rippel for the preparation of cocain solutions which can be sterilized without decomposition: The acidity of the solution is regulated by the addition of a weak acid so that when one or two drops of p-nitrophenol solution are added, only a weak yellowish color is obtained, and only a yellowish, but not violet color when one or two drops of alizarin sodium sulphonate solution are added. The cocain could be dissolved in a solution containing a mixture of one part of primary phosphate ($\text{NaH}_2\text{PO}_4/15$) and nine parts of secondary phosphate ($\text{NaHPO}_4/15$). This gives an acidity of $\text{pH} = 5.8$, i. e., about like that of urine. Then the cocain solution can be boiled one hour and it can be allowed to stand at room temperature for two or three months without loss of activity. By adhering to these precautions, it is probable that a greater uniformity of anesthetic response will be obtained in practice. It is conceivable also that the toxicities and accidents from the use of cocain as a local anesthetic may be avoided, in part at least, if the unknown and variable concentration of cocain in solutions is avoided, and this can now be accomplished by preparing cocain solutions with proper chemical reaction.

The work of Rippel illustrates the practical importance—in fact, indispensability—of methods of precision, involving the principles of physical chemistry and of biology, to pharmacology for the rationalization of therapy, and, therefore, in clinical practice. In this case, a common, every-day local anesthetic is involved. Other agents, of course, have been and are being quite as fruitfully investigated.

Bibliography

Rippel, A.: Archiv. der Pharmazie, 1920, 258:287, "Über den Einfluss der Reaktion auf die Haltbarkeit von Kokainlösungen."

SOMETHING TO SHOOT AT

Following is the official registration of Fellows at a number of meetings of the American Medical Association:

1905	Portland, Ore.	1,680
1911	Los Angeles	2,153
1915	San Francisco	2,307
1916	Detroit	4,585
1917	New York	5,147
1918	Chicago	5,553
1919	Atlantic City	4,929
1920	New Orleans	3,681
1921	Boston	5,506
1922	St. Louis	5,174

AMERICAN MEDICAL ASSOCIATION ANNUAL MEETING

Satisfactory and encouraging progress continues to be made. Practically all of the numerous committees concerned with the convention itself, as well as with post-convention programs, have been completed and are all actively engaged in the discharge of their several duties. The chairmen of all committees, together with the representative elected officers of county societies, sections and of the State Society, constitute ex-officio the Central Committee. The entire membership of this committee is published on pages 223 and 224 of this number of the Journal. We will be very glad of any notations of corrections or omissions from this committee.

The Finance Committee is still struggling with the most important problem connected with the convention. This number of the Journal contains a separate editorial on this subject.

The General Entertainment Committee and the other committees, such as Golf, Outdoor Entertainment, Clubs, Women's Clubs, have completed their programs and will have all the details for a successful convention from a social standpoint well worked out in ample time. The Women's Entertainment Committee has completed a most attractive program for the entertainment of our women guests.

Committees having to do with post-convention activities have nearly all completed their programs and from now on are concerned only with the details of carrying out these programs. The post-convention program for July 2 and 3 constitutes one of the several innovations to be introduced at this session of the A. M. A. We have every reason to believe that it will prove attractive, interesting and unusually profitable, not only to physicians, but to the public.

Every member of the California Medical Association is a member of the General Reception Committee. As many as possible should attend the convention, register, and receive, and wear constantly during the convention and post-convention weeks, the special badge that has been prepared for that purpose.

"MEDICAL CALIFORNIA," the book being prepared by your committees for distribution to all Fellows and guests of the A. M. A., is now in press. It contains the entire program of all social and entertainment features; it discusses the points of interest throughout California that visiting physicians might like to see; it contains a considerable amount of data regarding public health, hospitals, number of physicians and their proportion to population, for the State as a whole and for each individual county. This book will be 148 pages in size, printed on the very finest of paper, with a cover done by one of the best artists in California, and profusely illustrated throughout. It is not a pamphlet, but a book of information about California, put in such a form that the holders of the 10,000 copies will want to keep them and use them for reference in the days to come.

The officers and members of committees of State

and county medical societies and of auxiliary medical organizations of the State, as well as all officers and chiefs of staff departments in all the accredited hospitals of the State, are appropriately listed in this book, with their addresses. This and all other data in the book is as complete and as accurate as it was possible to make it in such a short space of time. Those few centers that could not find the time to co-operate and furnish requested data for this book may feel a sense of disappointment when it appears.

However, the editor feels nothing but enthusiastic praise for the splendid co-operation that has been shown by nearly all the officers and members throughout the State, not only in accumulating data for this publication, but in all other matters connected with the organization of the vast undertaking of the Statewide Convention of the American Medical Association.

THE 1923 MEETING OF THE STATE SOCIETY

The program for this year's meeting of the State Society is being assembled and will be published in full in the June number of the Journal. This meeting, as is now quite generally known, will be held on Friday and Saturday, June 22 and 23, preceding the Seventy-fourth Annual Convention of the American Medical Association.

The program, although not so protracted as in former years, is exceedingly interesting, both from the standpoint of section meetings and the general meetings. Every member of the State Society should be present at the general meeting on Friday morning and that of the League on Saturday morning. Distinguished visiting Fellows of the A. M. A. will be on both programs.

Many matters of great importance to those interested in medical progress will be considered and decided in the name of the State Society at the meetings of the Council and of the House of Delegates.

ARE YOU A FELLOW OF THE A. M. A.?

Only "Fellows" are permitted to register at the American Medical Association meetings. In order to become a Fellow, a physician must:

- a. Be a member in good standing, with dues paid up, of a County Medical Society;
- b. Be a member of a State Society;
- c. Sign the application blank for Fellowship in the A. M. A. This application must be certified by the secretary of the State Society;
- d. Pay his A. M. A. Fellowship dues of \$6.00 a year and hold his Fellowship card.

Some physicians write us stating they thought themselves Fellows of the A. M. A., because they subscribed to the Journal. This, of course, is an error. Anyone can subscribe for the Journal, but there is only one way to become a Fellow, and that is as described above.

There are in California over five thousand physicians who should be members of their county and State societies and Fellows of the A. M. A. Actually, there are about 3700 who are members of their local and State societies and about two

thousand who are Fellows of the national association.

During the convention, the A. M. A. will be prepared to issue Fellowship cards to all who hold membership in county societies.

Don't you think you should attend to this promptly?

FINANCING THE AMERICAN MEDICAL ASSOCIATION CONVENTION

The Central Committee estimates the expenses connected with this convention at \$24,490. This estimate is itemized as follows:

Rents	\$ 640.00
Telephone and telegraph.....	500.00
Postage	300.00
Office supplies	300.00
Printing and mailing	3000.00
Multigraphing and mimeographing	250.00
Salaries and wages.....	2100.00
Office equipment and typewriter rental	600.00
Printing and illustrating book..	6000.00
Badges	400.00
Auditorium changes and furniture	1000.00
Opening meeting (hall, music, decorations, refreshments)....	400.00
Tea—Tuesday, June 26	1800.00
Luncheon—Wednesday, June 27	2400.00
Transportation	700.00
Golf prizes	100.00
President's reception	4000.00
Total	\$24490.00

This information is given in answer to inquiries from a few members of the State Society as to what money was needed for. It will be noted in examining this budget that no provision is made for special expenditures in other parts of the State for local entertainment. The Finance and Central Committees feel that members throughout the State should contribute whatever they can to the treasurer of the Central Committee for the general purposes of the convention as outlined above. In making contributions, it is hoped members in certain sections where post-convention activities will be carried on will bear in mind the fact that they will be expected to contribute locally to their own committee for purposes of their own local entertainment—this should be taken into consideration in making donations to the Central Committee.

The response to the second letter sent out by the chairman of the Finance Committee recently and to the editorial in the April number of the Journal has been very gratifying. However, we are still very far short of the amount of money that has already been authorized by the Central Committee and which must be provided by those who are willing to do their share in money, if not in service. Please send your check promptly to John Gallwey, Treasurer, 808 Balboa Building, for whatever you feel you can give.

STATE SOCIETY

THE CALIFORNIA COMMITTEE ON ARRANGEMENTS

Many committees are active in efforts to make the American Medical Association convention a success. All committees will be published in full with names and addresses in "Medical California." The Central Committee is made up of officers of the State and county medical societies and of the chairmen of convention committees.

Officers and Executive Committee

William Everett Musgrave, General Chairman, 806 Balboa Building, San Francisco.
William T. McArthur, Vice Chairman, 836 Security Building, Los Angeles.
Ina M. Richter, Secretary, 408 Stockton Street, San Francisco.
John Galloway, Treasurer, 177 Post Street, San Francisco.
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General Reception Committee

This committee consists of all members of all other committees, as well as all officers and members of the California Medical Association.

All members of the General Reception Committee have been requested to wear a special badge during convention week and post-convention week. Visiting Fellows and guests are expected to ask for courtesies or assistance from any of the 4000 members of this committee.

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F. R. Mugler, Chairman, San Luis Obispo County Medical Society Committee, San Luis Obispo.

Wood C. Baker, Chairman, San Mateo County Hospital Committee, San Mateo.

Franklin R. Nuzum, Chairman, Santa Barbara County Medical Society Committee and Cottage Hospital Committee, Cottage Hospital, Santa Barbara.

James C. Blair, Chairman, Santa Clara County Hospital Committee, First National Bank Building, San Jose.

S. W. Dowling, Chairman, Santa Cruz County Medical Society Committee, People's Bank Building, Santa Cruz.

Ferdinand Stabel, Chairman, Shasta County Hospital Committee, Redding.

William A. Lavery, Chairman, Sierra County Hospital Committee, Loyalton.

H. H. Beck, Chairman, Siskiyou County Hospital Committee, Yreka.

A. V. Doran, Chairman, Solano County Hospital Committee, Vallejo.

Jackson Temple, Chairman, Sonoma County Medical Society Committee, Santa Rosa.

E. F. Reamer, Chairman, Stanislaus County Hospital Committee, Ramont Building, Modesto.

Trusten P. Peery, Chairman, Sutter County Hospital Committee, Yuba City.

E. E. Thompson, Chairman, Tehama County Hospital Committee, Red Bluff.

D. E. Fields, Chairman, Trinity County Hospital Committee, Weaverville.

R. N. Fuller, Chairman, Tulare County Hospital Committee, Tulare.

George C. Wrigley, Chairman, Tuolumne County Hospital Committee, Sonora.

G. A. Broughton, Chairman, Ventura County Hospital Committee, Oxnard.

Fred R. Fairchild, Chairman, Yolo County Medical Society Committee, Woodland.

George W. Stratton, Chairman, Yuba County Hospital Committee, Marysville.

Mrs. Ray Lyman Wilbur, Chairman, Women's Central Committee, Stanford University.

Mrs. George Somers, Vice-Chairman, Women's Central Committee.

Mrs. J. E. Jennison, Chairman, San Diego County Women's Hospital Committee.

Mrs. Donald Frick, Chairman, Los Angeles County Women's Hospital Committee.

Mrs. Edward N. Ewer, Chairman, Alameda County Women's Hospital Committee.

Mrs. F. F. Gundrum, Chairman, Sacramento County Women's Hospital Committee.

Mrs. B. F. Walker, Chairman, San Joaquin County Women's Hospital Committee.

Mrs. H. L. Carpenter, Chairman, Contra Costa County Women's Hospital Committee.

Mrs. L. R. Wilson, Chairman, Fresno County Women's Hospital Committee.

Who Are Delegates to the State Society Meeting?

—The constitution and by-laws of the State Society, the charter issued by that society to the various county units, and the constitutions and by-laws of the county societies themselves, all provide definitely how representation in the House of Delegates is to be selected. Through years of loose practice, these definite constitutional provisions have been more and more ignored, until they are now about as effective as the Eighteenth Amendment to the United States Constitution. Of course, in a democratic organization this laxity probably is not of material consequence, but we should all remember that some time or another the question is liable to become important.

The only people who can legitimately under any circumstances vote in the House of Delegates are those delegates or alternates who have been selected for the purpose by their county societies and who have been properly certified to the secretary of the State Society. This provision of the constitution ought to be enforced or done away with. What usually happens is that a comparatively small percentage of properly elected and certified delegates or alternates attend the House of Delegates meeting, and at the last moment any members who happen to be present from the various county societies are permitted to take their seats and to legislate in the name of the State Society. This is not good practice from the standpoint of the individual welfare of the physicians of the State.

Acting Associate Secretary—The Council at its last meeting authorized the Secretary of the State Society to devote his entire time to the Convention of the American Medical Association. The Associate Secretary was instructed to assume the duties of Acting Secretary. Doctor Johnson has been ill in the hospital for some months and is not likely to return to duty for some time.

The serious situation created by this combination of circumstances has been considered by the Publicity Bureau, and they have induced Doctor Emma W. Pope to temporarily help out as Acting Associate Secretary. On behalf of Doctor Emma W. Pope, the full co-operation and support of all officers and members is invited.

Southern California Medical Society

Reported by Egerton Crispin, Secretary, Pacific Mutual Building, Los Angeles

The sixty-eighth regular semi-annual meeting of the Southern California Medical Society was held at the Virginia Hotel, Long Beach, on Friday and Saturday, the 6th and 7th of April. The sessions were well attended. In the absence of the President, Robert Pollock of San Diego, the first vice-president, Francis L. Rogers of Long Beach, presided through the sessions.

The presentations of clinical observations by A. W. Hewlett, Professor of Medicine at Stanford, and by Thomas Addis, Clinical Professor of Medicine at Stanford, on Friday evening were well received by a large and closely attentive audience. George Dock, the Saturday evening speaker, gave a scholarly address on the development of medicine through the period of superstition and empiricism to the present time with its continued effort to place medicine on a more scientific basis.

The first paper of the Friday afternoon session was by A. D. Butterfield of National City on "The Application of the Broad Principles of Physiotherapy," who emphasized physiotherapy as an established therapeutic division of medicine.

"Physiotherapy is the use of nature's forces, such as light, heat, air, food, water, and exercise in the treatment of disease. For many years faddists have taken one or more of these therapeutic agents and have endeavored to make a 'cure-all' system of practice. From these much abused agencies, an earnest endeavor is now being made to establish their true scientific value." Discussion by A. Gottlieb and Gustav Bjorkman of Los Angeles, H. J. Andrews of Hollywood, and Frank Mikels of Long Beach.

A. B. Wessels and Harold Cornell of San Diego presented a paper on "Some Observations Upon Diseases of the Accessory Sinuses" which was discussed by John Mackenzie Brown and C. H. Montgomery of Los Angeles.

"The Advisability of Urologic Examinations in Obscure Abdominal Pain" was presented by Leon Watkins of Los Angeles and discussed by Henry Shaw, C. P. Thomas, Robert Day, O. O. Witherbee and Walter Brem of Los Angeles.

Burns Chaffee of Long Beach, with a paper on "Acute Intestinal Obstruction," reviewed the experimental work done on acute intestinal obstruction, placing emphasis on the laboratory findings that aid in arriving at an early diagnosis, and urging that surgical interference be adopted in the presence of minimum symptoms rather than to always wait until a positive diagnosis is made." Chaffee's paper brought out an interested discussion by F. J. Colbert, William Duffield, C. P. Thomas, O. O. Witherbee of Los Angeles and Philip Savage of San Bernardino.

"Training of the Neurasthenic" was the subject of a paper presented by H. Douglas Eaton of Los Angeles, in which he said that the "confusion in the etiology and pathology or lack of pathology of neurosthenia has led to loose methods in handling neurasthenics. Whatever theory in this regard the physician may hold, his treatment of neurosthenia will not be permanently successful unless it covers individual mental and physical training carried out under his close supervision." Following the general part of his paper Eaton presented his own suggestions and methods for this training. Discussion was participated in by Ross Moore, Paul Bowers, and James Percy of Los Angeles.

Friday Evening

Thomas Addis in presenting clinical observations and studies on "Bright's Disease" illustrated by

lantern slide graphs and charts said, "In all of the variety of diseases combined under the term bright's disease the determination of the nature and of the extent of the renal lesion is of great importance in prognosis and treatment. Direct information as to the nature of the renal lesion can be obtained by a systematic study of the urinary sediment if certain conditions essential for the formation and preservation of casts are observed. The extent of the lesion can be determined by measuring the ratio between the rate of urea excretion and the concentration of urea in the blood. Under certain special conditions the magnitude of this ratio varies with the amount of normal secreting renal tissue. Using the results of such methods of examination as a standard, it has been found that in many points which are of great clinical importance fairly accurate approximations to the actual facts may be obtained by the use of such simple laboratory methods as can be utilized by the practitioner in his office."

A. W. Hewlett presented a series of observations illustrated by lantern slide charts and graphs on "The Clinical Significance of Vital Capacity Measurements" in which he discussed "the vital capacity of normal men and women in relation to height, weight and body surface." The height standard was used in the study which Hewlett presented which consisted of a statistical study of four hundred male patients in whom cardiac disease was suspected. The relation of vital capacity to diseases of the thorax was discussed on the basis of this study and of the reports in the literature."

Saturday 9 a. m.

The first paper of this session was presented by Thomas O. Burger of San Diego on the "Advantages of the Radical Operation for Hernias Under Local Anesthesia." Discussion by Charles Phillips of Los Angeles and Sidney Burnap, C. P. Thomas, O. O. Witherbee, and H. J. Andrews.

Francis L. Rogers of Long Beach presented a paper on "Membranous Croup: Diphtheritic and Non-Diphtheritic" in which he said, "They are distinct diseases with certain symptoms and treatment the same in both. Each has distinctive diagnostic symptoms if seen early—an analysis of same and salient points are given. Preventive medicine is an adjunct in true croup. Public Health and Public Welfare nurse service in the public schools. The use of the Schick test and toxin-antitoxin as a follow-up measure. The unsanitary rural home and environs in non-diphtheritic croup and the diphtheria carrier in all communities as factors. The present death rate in both types—is a menace, a disgrace and a subject for drastic criticism of Health Departments, the medical profession and general public. The early use of two available means of treatment; antitoxin in large doses and intubation will save practically one hundred per cent of both types."

"Much of the local treatment used in the past was not only useless but harmful. Health officers, accredited hospital staffs, and all other medical agencies should actively co-operate in teaching prophylaxis and the value and importance of early diagnosis and treatment. The day and night schools for adults can and should be available for the spreading of such needed public health information." This paper was discussed by F. H. Linthicum of Los Angeles.

John V. Barrow and Edward Franklin presented a paper on "Emetin in the Treatment of Typhoid Fever" in which they discussed "Treatment of Typhoid Fever with Emetin Hydrochloride" and presented a clinical study of one hundred cases with special reference to: (a) protozoa as a complication, and (b) the Widal Haemoclastic reaction as a valuable diagnostic sign. They also presented "comparative tables featuring one hundred cases in which no emetin was used."

This study was discussed by Walter Brem. Lack of time caused the president to limit what bade

fair to be animated discussion and to proceed with the program.

"X-ray Therapy." A Symposium; Covering the Treatment of Skin and Superficial Lesions; Glands and Blood Diseases; Treatment of Neoplastic Disease from Pathologic Standpoint and "Deep Therapy" was presented respectively by Raymond Taylor. William Bowman, who discussed under the "Roentgen Treatment of Skin Lesions" the types of ray that are used, hard, soft, filtered and unfiltered. The dosage and methods of measuring. The technique of applying ray. The dangers: X-ray reactions and reactions following application of drugs following treatment. The types of lesions benefited by treatment are malignant and non-malignant.

Rex Duncan and Albert Soiland. In Soiland's absence because of illness his paper was read by Costolow, his associate. His article "Dealt briefly with the writer's experience during the past year in the clinical use of short wave X-rays, otherwise known as deep roentgen therapy. He felt that enough data has been collected to venture an opinion as to whether or not earlier claims for this treatment have been substantiated."

Roland Skeel of Los Angeles presented the last paper of the morning session on "Acute Appendicitis: The Factors Promoting Recovery with and without Operation." Skeel's paper was discussed by Maurice Kahn and C. P. Thomas.

Saturday 2 p. m.

Following the transaction of business and the election of new members William Happ of Los Angeles presented the first paper of the session on "The Nature and Treatment of Anemias of Infants and Young Children" in which he gave "A classification of the anemias in infancy and childhood. Primary or pernicious anemia is very rare, the anemias being practically all of the secondary type. The peculiarity of the reaction of the infantile haematopoietic system to anemia, in responding with active regeneration and the output of immature forms must be kept in mind in interpreting the blood disorders at this period. The so-called von Jaksch's anemia is not a clinical entity but a secondary anemia. The treatment consists in determining and removing if possible, the underlying cause, and in the general measures useful in anemia. Transfusion is a valuable adjunct in severe cases." Happ's paper was discussed by Cleon Mason of Long Beach, R. C. Sharp of San Diego.

"Splenomegaly With Anemia" was the title of an interesting study by Hilmar O. Koefod, Santa Barbara, this supplemented by a case report and lantern slides showing a gross thickening of the skull in the subject (a child) and which Ullman called a "Leontiasis Ossia," perhaps occurring concurrently in the patient who was the subject of the study presented by Koefod.

Ernest Marshall Johnstone of Pasadena in presenting "Splenectomy: Its Scientific Basis and Therapeutic Value," illustrated by lantern slide graphs and charts, said, "Splenectomy is an old and fairly frequent operation, yet its performance has been without definite scientific foundation. Of late years great progress has been made toward a rational basis for splenectomy by experimental work on animals and careful clinical observations for several years after removal of the spleen. Of the many blood, marrow, lymph gland, etc., changes which follow splenectomy, the two most important facts which indicate a real therapeutic value are, first, the greatly increased activity of the marrow in producing red blood cells, and second, the decreased fragility of these cells." Johnstone's paper was discussed among others by Walter Brem, George Dock, and A. S. Lobingier of Los Angeles and Rexwald Brown of Santa Barbara.

"The Treatment of Diabetes With Insulin" was presented to a most interested audience. This work was done by W. D. Sansum, N. R. Blatherwick, Ph.D.; M. Louise Long, M.S.; Elsie Hill, A.B.;

and L. C. Maxwell, B.S., and presented by N. R. Blatherwick, Ph.D., who discussed "The Preparation and Properties of Insulin," and W. D. Sansum, who presented the clinical observation. They said in part, that they had treated ninety patients suffering from severe diabetes, with insulin and illetin. Their clinical records show that in a large majority of these patients the disease had reached that degree of severity where they could no longer be kept free from sugar and acidosis, even if maintained continuously at bed rest, since their tolerance were sufficient to permit the lowest possible maintenance diets. Two out of five patients already in coma survived. Gains in weight as high as thirty-five pounds were reported.

They believe that no patient or physician who has not acquired a thorough knowledge of dietetics should be entrusted with the use of insulin. They sum up the principles of insulin treatment as follows:

1. The patient's natural tolerance should be determined in grams of sugar-formers.
2. The exact value of the proposed diet should be known.
3. The sugar-burning power of the insulin in grams per c.c. should be known.
4. The dosage of insulin may be adjusted to make up the difference between the sugar-formers of the proposed diet and those of the patient's natural tolerance.

The last paper of the afternoon session was by Andrew Stewart Lobingier of Los Angeles on "Some Problems in the Infection of the Gall Bladder and Bile Ducts" in which he discussed:

- (1) Chronic cholecystitis is usually associated with chronic cholangitis, especially where partial obstruction to the outflow of bile may exist.
- (2) This retardation holds up a large reservoir of toxic bile and the absorption through the mucosa of the hepatic ducts quite over-shadows in its consequence that from the mucosa of the gall-bladder.
- (3) Delay in this stasis of toxic bile in the hepatic ducts and gall-bladder produces destructive changes in the myocardium as first emphasized in this country by Babcock.
- (4) There is convincing evidence that the nervous system, central and splanchnic alike, suffer serious functional disturbance from this toxemia.
- (5) The principle of adequate and bile drainage should govern in the treatment of these cases.

The discussion of this live surgical problem was opened by Rea Smith of Los Angeles.

At 6:15 about two hundred and fifty members and their guests assembled at dinner in the north dining room. Percy Magan, the after-dinner speaker, in well chosen words gave to an appreciative audience, ideas, born of experience in handling students, on "Moral Influence in the Training of Physicians."

Saturday Evening

George Dock in presenting a semi-popular talk on the "Art and Science of Medicine" gave an account of the origin of modes of healing, showing the persistence of the same ideas of the nature of disease and the means of removing it all through many centuries, including the use of plants and minerals, animal organs and mysterious constructions. He told how among the immense number of means tried, some proved of value, but even those still need investigation. He went on to describe the study of disease; how progress went hand in hand with the discoveries in biology and the physical sciences; how the nature of disease has been made clearer; the causes of disease made known; and from some recent examples showed the promise of the future, which includes not only prevention of much disease, but a more certain aid when it does come.

Excerpts of papers presented in the report of the Society's meetings are from typed abstracts furnished by the authors.

COUNTY NEWS

ALAMEDA COUNTY

Samuel Merritt Hospital Accredited by American Medical Association—The Samuel Merritt Hospital, Oakland, has been placed on the list of hospitals approved for intern training by the Council on Medical Education and Hospitals of the A. M. A., having been notified of their accredited standing in the following letter from that Council:

"In accordance with the recommendation of the hospital committee of your State medical society, and in recognition of the splendid work and continuous improvement in progress in the Samuel Merritt Hospital, it is the pleasure of the Council on Medical Education and Hospitals to recognize your hospital as a proper hospital for the training of interns in the fifth year in medicine.

We trust that continued advancement may be your lot, and that you will always remember that we stand ready to give every assistance that will in any way make for the betterment of service, either in the care of patients or in the important work of training medical graduates.

A notice of this recognition will be published in an early number of the Journal, as well as in other publications of the American Medical Association.

Will you kindly bring this notice to the attention of the staff, the board of directors, and others who will be similarly interested?"

FRESNO COUNTY

Fresno County Medical Society (reported by John D. Morgan, secretary)—The regular meeting of the Fresno County Medical Society was held on April 3, with forty-four members present. Guests were Thomas Addis of San Francisco and H. O. Collins, Eckhart, Boudin, Fate, McClure, and Stewart.

Albion W. Hewlett, professor of medicine of Stanford Medical School, gave a clinic on Disease of the Heart and Circulatory System. Among other conditions, Hewlett presented and discussed the following: open ductus arteriosus, aortic stenosis, aneurism of aorta.

KERN COUNTY

Kern County Medical Society (reported by P. J. Cuneo, secretary)—The Society convened in regular session at Kern County General Hospital Thursday evening, March 15, with George Sabichi presiding, and one of the best attendances for some time. Dr. Veon was selected to arrange for our April meeting.

S. C. Compton presented interesting clinical cases. Hamlin presented the paper of the evening, his subject matter being "Acute Infections of the Accessory Air Spaces"; McKee lead in the discussion that followed: Hawkins gave an interesting, instructive paper; Schaper followed with demonstration of the early diagnosis of pulmonary tuberculosis.

The meeting then adjourned to our usual enjoyable supper, concluding a splendid evening.

LOS ANGELES COUNTY

(Report by Committee on Medical Education)

Los Angeles County Medical Association—The University of Southern California contemplates the establishment of a medical school as a department of the University. They requested the endorsement of the County Medical Society. The following interesting and informative report has been submitted by a committee as follows: Walter Brem, chairman; Donald J. Frick, Theodore Lyster, Percy Magan, W. A. Beckett, Sydney Burnap, Wayland Morrison, Charles D. Lockwood, George Dock,

Jarvis Barlow, William H. Gilbert, president; Harlan Shoemaker, secretary-treasurer.

Mr. Chairman and Members of the Committee on Medical Education:

Complying with your instructions, the sub-committee appointed at your first meeting has met and begs to submit herewith its report based upon the following premises:

I. The University of Southern California desires to establish a medical school in the city of Los Angeles.

II. The University of Southern California wishes the approval and support of this project by the Los Angeles County Medical Association.

III. It is the function of this committee to present for your consideration its recommendations as to the kind of medical school which would deserve your endorsement, together with such additional facts as seem pertinent to the question of medical education and the improvement of the medical service in this community.

We believe it is the birthright of the medical school to be wanted by:

1. The community in which it is to be established.

2. By the outstanding medical organization in the community.

3. By a university of good standing in educational circles.

4. By certain bodies whose activities are wholly or closely identified with the conduct and advancement of medical education, such as:

(a) The Council of Medical Education of the A. M. A.

(b) The Association of American Medical Colleges.

(c) The Carnegie Foundation.

(d) The General Education Board.

(e) The Rockefeller Foundation.

If the need of a medical school in a community is agreed upon by these various groups their moral and to some extent their financial support may confidently be counted upon, provided the program for the new school gives proper assurance of the founder's intention and ability to create and operate a Grade A school which shall conform, in terms of administration, organization, personnel, equipment, curriculum and hospital affiliations, to the best practice among the leading medical schools of the country.

Any attempt to operate a medical school which could not secure a Grade A rating by the Council on Medical Education of the A. M. A. we should look upon as prejudicial to the best interests of the local medical profession, to medical education, and to any students who might enroll in such an institution.

It has been reported without contradiction in the local papers that it was the intention of the University of Southern California to accept matriculates for the degree of Doctor of Medicine this coming September. It is our hope and our belief that this news item was without justification in fact, for it is inconceivable to us that such a course could eventuate in anything but disaster.

The complexity of modern medical education, the great expense which it entails, the difficulties which surround the task of assembling a competent faculty, the developing of a modern curriculum, the correlation of departmental activities, the securing and controlling of hospital affiliations, the creation of an adequate reference library and pathological museum, as well as the completion of a hundred other tasks essential to the proper administration and organization of a medical school would seem to offer ample reason for deferring the opening of a school until proper provision could be made for handling these varied and difficult problems.

The necessity of maintaining the standards in medical education first created by the survey of the Carnegie Foundation and ably developed their present state by the Council on Medical Education of

the A. M. A., must be obvious to all who are familiar with the work of these boards.

The far-reaching results of their efforts is reflected in the medical legislation which the various States have enacted. Already 73 per cent of the State licensing boards require the pre-medical education as prescribed by the A. M. A., and today diplomas from schools receiving a low A. M. A. rating are reported as not recognized in from forty to forty-six States.

The obvious handicap which a student incurs in graduating from any other than a Grade A school, to say nothing of lessened opportunity which he has of receiving an adequate preparation for his life's work, would indicate that a student who would knowingly select a low-rated school would not seem to be actuated by motives which are likely to insure his being an asset to his profession or to the community in which he settles.

The question of establishing a medical school in Los Angeles is so closely identified with the larger problem of a medical center that any consideration of the one naturally involves the other.

That a large medical center will ultimately be required to provide the people of this city and surrounding country with all the advantages which modern science now offers is obvious to all. Such a center should make provision for:

- (a) The care of the sick and injured.
- (b) The teaching and practice of preventive medicine.
- (c) Undergraduate teaching.
- (d) Graduate teaching.
- (e) Research in all branches of the medical science.
- (f) Training of nurses and public health workers.

A medical school with its associated teaching hospitals is the logical nucleus about which such a center should develop, and it is, therefore, of the utmost importance that the character of such a school should command the confidence of the leaders in medical education throughout the country.

An exceptional opportunity presents itself to those who are seriously and unselfishly interested in improving the medical service in this locality.

Even a cursory review of the present situation reveals a rapidly growing city and surrounding country, inadequate hospital facilities, no permanent quarters for the county's most important medical organization, deficient library facilities, no opportunity for many qualified men to continue or engage in important research problems which they are interested in, hospitals and staffs operating under conditions which involve great economic loss, no established clinics to which members of the profession from this or adjoining States may profitably come and witness new methods of technique, treatment or diagnosis, a university anxious to found a medical school, and finally, nearly if not all of the important interests back of medical education the country over have recognized and expressed the urgent need for a big constructive medical development in this city.

May we not capitalize this situation to the great advantage of the cause of better medicine and to the great good of the city of Los Angeles by uniting all of the various interests that are involved in an effort to attain a common goal.

It is the belief of this committee that once the advantages that would accrue to each institution, through participation in such a movement, are fully understood that there will be little difficulty in securing their co-operation.

Conclusions

1. The indorsement of the proposed medical school by the Los Angeles County Medical Association should be contingent upon the assurance that it will receive a Grade A rating from the outset.

2. A survey of the local medical facilities and an estimate of the future needs of the city and sur-

rounding country would be of inestimable value in giving proper direction to any new developments.

3. The establishing of an office with a competent personnel and under expert direction which could serve as a clearing house for data on medical schools, hospitals, dispensaries, public health, industrial, medicine, vocational training, including administration, organization, building and equipment, would supply the necessary information upon which to base many important decisions.

4. Liaison should be established with all of the important medical centers throughout the world.

5. It would seem proper for the Committee on Medical Education of the Los Angeles County Medical Association to take the initiative in an effort to unite all interests in a common cause and thus take a first and most important step towards the consummation of the medical development which we all so earnestly desire.

Barlow Medical Library—The fifteenth annual report of the work of the Barlow Medical Library, Los Angeles, shows that the usefulness of the library increases with each succeeding year. The library membership has grown to 190, with a gain of fifty-nine new members this year.

California Lutheran Hospital Accredited by American Medical Association—The California Lutheran Hospital, Los Angeles, has been placed on the list of hospitals approved by the Council on Medical Education and Hospitals of the A. M. A., for the training of interns, according to the following letter received by the hospital from the Council:

"In accordance with the recommendation of the hospital committee of your State medical association, and in recognition of the splendid work and continuous improvement in progress in the California Lutheran Hospital, it is the pleasure of the Council on Medical Education and Hospitals to recognize your hospital as a proper hospital for the training of interns in the fifth year in medicine.

We trust that continued advancement may be your lot, and that you will always remember that we stand ready to give every assistance that will in any way make for the betterment of service, either in the care of patients or in the important work of training medical graduates.

A notice of this recognition will be published in an early number of the Journal, as well as in other publications of the American Medical Association.

Will you kindly bring this notice to the attention of the staff, the Board of Directors, and others who will be similarly interested?"

New Administrative and Hospital Building at Soldiers' Home, Sawtelle—According to press dispatches, work has already begun on the new administrative and hospital building at the Soldiers' Home, Sawtelle. The new structure will be located directly between the present hospital annex buildings and will conform in architecture to the other wings. Administrative offices, laboratory, X-ray rooms, cafeteria, and kitchen will be included in the new unit. Patients, at present housed in temporary quarters, will be moved into the new building upon its completion, which is expected to be about the middle of June.

Pasadena's Municipal Isolation Hospital—Work is progressing on the municipal isolation hospital now being erected on South Marengo Avenue, Pasadena, on land owned by the Municipal Water Department, according to news items in the press, and will probably be completed within the next month or six weeks at a cost of \$15,000. The hospital will have rooms for eight beds; also baths and accommodations for nurses. The plans for the hospital were prepared by Myron Hunt, architect, and it is stated that the building will be of first-class construction throughout.

MONTEREY COUNTY

Monterey County Medical Society (reported by T. C. Edwards, secretary)—One of the best meetings in the history of the Monterey County Medical

Society was held in Salinas on the evening of April 6.

Eugene S. Kilgore of San Francisco filled the program for the evening. His subject was "Modern Treatment of heart Diseases," and was illustrated with lantern slides, accentuating certain points in the course of the talk. Several questions were asked by the members and answered by Dr. Kilgore.

We would suggest that more programs of county societies, given by invited physicians, might help to instill life into societies that need an awakening. Opportunities to have special physicians give special programs are published in the Journal every few months.

Monterey County Society has made arrangements to have a physician or surgeon of note at all of its meetings this year.

C. H. Halliday, the newly appointed "full time" health officer for Monterey County, was present and gave an outline of the work contemplated by him and asked that the members of the Society cooperate with him in his work.

A motion was passed by the Society calling the attention of the municipalities of the county to the advisability of having Dr. Halliday take up the health work in the cities, thus co-ordinating all the public health activities of the county.

SAN BERNARDINO COUNTY

San Bernardino County Medical Society (reported by E. J. Eytinge, secretary)—The Society met at the San Bernardino County Hospital on April 3, with thirty members and twenty guests present. The program consisted of:

1. Demonstration and discussion of two cases of: a. Nephrolithiasis. b. One case of Tuberculosis of the Genital Tract in the Male. By E. J. Eytinge. c. Microscopic Findings, and Slides. By L. D. Campbell. Discussion opened by C. G. Hilliard.
2. Urology in Children. Illustrated by lantern slides. By A. B. Cecil of Los Angeles. Discussion opened by J. A. Shreck.

Attention was called to the State Indemnity Defense Fund. Delinquent members, according to the Coverage Rules, are not protected during their period of delinquency.

SAN DIEGO COUNTY

St. Joseph's New Hospital—Towering high in the field of San Diego's present progress is the new St. Joseph's Hospital. Within this month its plans will be completed, and the actual building begin. It is the ambition of the Rt. Rev. Bishop and the Sisters of Mercy to place in the heart of San Diego a hospital embracing the latest and finest details in modern substantial and well-planned construction. The predominant aim is particularly to make it one of the best planned hospitals of the country, giving to the sick and the suffering every convenience and comfort that invention and thought have made available.

The five-acre site for the new structure lies beyond the end of Fifth street, about six hundred yards northwest of the present hospital. The approach will be by Hillcrest Drive, terminating in an oval containing a fountain and flower gardens. The building will stand six stories high on the brow of Mission Hills; the main structure, 260 feet long and forty-four feet wide, will face the west and be flanked on either side by wings one hundred feet long and forty feet wide projecting westward. The general style will be Spanish mission style with stucco finish. The construction is to be Class A, reinforced concrete with tile filler walls, absolutely fireproof, and a basement underneath the whole building.

The capacity will be 150 beds, with provision for future expansion. There will be an equal number of single and double rooms, but no wards. Each room will have its individual lavatory and cloak-closet, and will be equipped with a nurses' silent

signal system with a checking enunciator. This will enable the superintendent of nurses to note, without leaving her office, all the calls for a nurse's service throughout the hospital, and to know the moment each call is answered. A modern doctors' call system will also be installed.

On the first floor the main entrance will be into a spacious lobby suitably planned to eliminate what might seem bare and institution. This has its large open fireplace. On this floor will be the administration department; also the outpatient department in which is included a modern dispensary, medical examination, eye, ear and throat rooms, social service room, and waiting room. Also here will be found the ambulance receiving room with surgical dressing room, etc. In connection with the administration department on the main floor are the business and private offices, doctors' rest room with bath, the superintendent of nurses suite, with bath, record room, public waiting-room, and phones.

Off the main floor, in a separate central wing, is the domestic service department, containing a main kitchen, a main serving room, help and maids' dining rooms, equipped cafeteria style. The basement of the kitchen will contain a modern refrigerating plant, including an ice-making machine, various cold storage rooms, vegetable preparation rooms, and a butcher shop. The basement under the main building will contain the nurses' and staffs' dining rooms, a complete therapeutic suite, a nurses' rest and locker room, psychopathic room, auxiliary store rooms and vaults, a sterilizing suite, an autopsy suite, etc. From the refrigerating system in the basement water will be distributed to the various drinking fountains on all floors.

The second and third floors will contain private rooms and baths (single and double), various utility and sink-rooms, general bathrooms, special nurses' locker-rooms, diet kitchens, special diet-room, and two solariums on each floor.

The fourth floor will be given over to the obstetrical department which will be thoroughly modern in every respect, containing delivery rooms, husband's room, sterilizing room, and a large well-lighted nursery with airing-balcony and equipped with a washroom, linen dryers, blanket warmers, linen closet, doctors' room, labor and receiving rooms.

The operating department will occupy the fifth floor. Around the central operating foyer will be located the major and minor operating rooms, surgeons' scrub-up room, nurses' room, dressing and utensil room. This department will also contain anasthetizing and recovery rooms, a complete pathological laboratory, an X-ray operating suite of rooms with dressing rooms, etc. Some private rooms for patients will also be located on the fifth floor.

The sixth floor will be given over entirely to the Sisters' living quarters, containing a chapel, a community room, refectory, serving room, bedrooms, and roof garden.

The plans for general service aim at maximum efficiency. Food will be prepared in the main kitchen and sent to the diet kitchens on various floors by means of an automatic electric dumb-waiter, thence to be distributed from those kitchens on each floor to the patients. A passenger elevator will serve all floors, while an automatic electric bed elevator will give its special service to the surgical department.

A complete power house, to be erected northwest of the main building, will provide high pressure steam for the various sterilizers; also for a low-pressure vacuum heating system to heat the whole institution. The power house will also contain vacuum cleaning apparatus. A general incinerator will be provided in the vicinity of the power house. A new, thoroughly modern laundry and nurses' home are contemplated.

The plans for San Diego's hospital were drawn

by I. E. Loveless, architect. With such an institution built and located, as it will be, on a quiet, restful site overlooking the famous Mission Valley, and placed in, the care of the gentle Sisters of Mercy, there is little to be desired for California's first and most southern city.

SAN FRANCISCO COUNTY

San Francisco County Medical Society (reported by J. H. Woolsey, secretary)—During the month of March, 1923, the following meetings were held:

Tuesday, March 6, Committee on Medicine—The present status of the treatment of leprosy. H. T. Hollman, formerly Director U. S. Leprosy Investigation Station, Honolulu.

Tuesday, March 13, General Meeting—Symposium on Allergy or Foreign Protein Sensitization. Anaphylactoid phenomena, P. J. Hanzlik; allergy in asthma and hay-fever, S. H. Hurwitz; allergy in eczema and urticaria, G. D. Culver.

Tuesday, March 20, Committee on Surgery—Head injuries—discussion of a new pathological group. H. C. Naffziger; surgery of the gall-bladder, Sterling Bunnell.

Tuesday, March 27, Committee on Eye, Ear, Nose, and Throat—Clinical meeting at the University of California Hospital.

Proceedings of the Eye, Ear, Nose, and Throat Section of the San Francisco County Medical Society, February 27, 1923, E. F. Glaser presiding (reported by F. Cordes, secretary)—Wallace B. Smith presented a paper on observations on practice of per-oral endoscopy. The paper was preceded by a brief history of the subject. Smith pointed out the necessity of a good organization in the operating room, emphasizing the fact that personal supervision of details is necessary, especially in an operating room where the personnel is changing. In children he does the procedure under ether anesthesia preceded by atropine, while in adults scopolamin and morphine usually suffice. Great emphasis was placed upon the proper position so as to make the approach easy. Ordinarily, the grasping forceps suffice, but occasionally a hook is necessary as in the case of a small rusty collar button or half a roasted peanut. The complication to be feared is that of subglottal edema, especially in children and babies. This can usually be avoided by skillful application, while unskilled manipulation, too large a tube, or too long a time may cause this complication and necessitate tracheotomy.

The attempted removal by unskilled men with improper instruments was especially condemned. The future will develop more qualified men, and the profession will become better educated to early reference of cases to the proper men.

In the discussion, Graham was interested in the additional use of scopolamin. He pointed out that the edema may be due to dilatation, but as Jackson points out, peanuts, probably because of the oil, are more apt to cause it.

Price condemned the feeding of mush, etc., in cases of a foreign body in the oesophagus in an attempt to dislodge them, as this may dislocate the foreign body to a more dangerous position. Cohn brought out the necessity of trained assistants.

Hebert told of the necessity of the X-ray; stated that Jackson did not use an anesthetic in children.

F. Cordes presented a paper on lupus vulgaris with ocular extension. The patient, over a period of nine years, developed a lupus that involved the lids and globe. Microscopic examination of the globe showed epidermoid corneal epithelium together with tubercles of the limbus and sclera. In the comment, he pointed out the severity of the disease and its marked destructive action in the lids and globe.

H. B. Graham's paper was on tuberculosis of the ear. The case reports are infrequent, due to lack of diagnosis in many cases, the positive diagnosis being difficult. Tuberculosis of the middle ear is

primarily a disease of the mucous membrane. Five distinct types are recognized:

1. The lipid form in which there is a slow process that may extend over years. It is similar to that of the nose and throat, in many cases being a direct extension. There is no discharge, the only symptom being deafness.

2. In the second type there is an infiltration of the entire drum followed by a marked destructive ulceration. The multiple perforations described in text-books are late stages of this type in most cases. Multiple perforations are, however, not pathognomonic of tuberculosis.

3. The third type is a rare, obscure, fibrinous one. On the promontory wall there is a thick yellowish deposit in which the tubercle bacilli are found. The process usually clears with removal of the fibrosis.

4. The fourth, a polypoid type, may fill the entire middle ear. There is very little secretion and the process heals with removal of the tissue.

5. In the fifth type, the ulcerative one, there is a breaking down with spread of the ulceration from the start. This is the destructive type that may cause mastoid involvement.

The lack of pain, multiple perforation, early interference with the labyrinth, deafness with low tones retained, early incidence of facial paralysis, any of these findings should lead one to suspect tuberculosis.

Graham thinks that in most cases the infection is through the tube and that the human tubercle bacillus is responsible.

In the discussion Cohn pointed out the difficulty in obtaining the tubercle bacilli in a smear even though guinea pig inoculation may be positive. Dr. Welty emphasized the value of solid silver nitrate in the treatment of these cases.

L. S. Mace read a paper on tuberculin in tuberculous iritis. He brought out that the condemnation of tuberculin is due to its improper use. In a patient in which the active process has loaded the system with the toxin, tuberculin is of no value. Tuberculous iritis is a disease of focal origin and depends on absorption of toxins as well as metastatic inflammation. Certain forms of laryngitis, various neuralgias, and stomach symptoms belong to this class. It is necessary to study each case to uncover the lung focus. The next step is to find the specific reaction to tuberculosis. The choice of tuberculin is important, Mace obtaining the best results with the old tuberculin of Koch. The reaction must be watched carefully so as to be able to grade the treatment dosage properly. Iritis is not a local affair so that one must consider the general condition. This was illustrated by two cases. The type of tuberculosis that causes eye symptoms is the type best treated with tuberculin.

Otto Barkan pointed out that before the advent of tuberculin these patients did well on general care. So that tuberculin must be regarded as an aid where the proper hygienic treatment is not available. F. Cordes told of the results obtained at the University of California Eye Clinic in these cases under Mace's treatment.

Mace in closing emphasized the necessity of general care. In some cases where this has no effect tuberculin has been found very helpful. It is not a cure-all, but has a definite place in therapy. Its use is not that of a foreign protein alone, as these do not give a specific reaction.

Hahnemann Hospital Accredited by Council on Medical Education and Hospitals of A. M. A.—Upon the recommendation of the California Committee of the Council on Medical Education and Hospitals of the A. M. A., Hahnemann Hospital has been accredited by that body for intern purposes, and have been so notified in the following letter from the Council:

"We have received the recommendation of Dr.

W. E. Musgrave, together with other evidence of your progressive attitude and substantial improvements, and are pleased to say that your hospital has been placed on the list of hospitals approved for the training of interns. Please accept this recognition as a token of our continued interest.

"It will be a pleasure at any time to have the opportunity to assist you in the good work which you are doing not only in the care of patients but also in the important work of instructing interns. "Kindly bring this letter of recognition to the attention of the staff and any others who may be interested."

SAN JOAQUIN COUNTY

San Joaquin County Medical Society (reported by H. S. Chapman, secretary)—The San Joaquin Society met on March 1, President Dewey Powell presiding, and the following members present: Hull, Harbert, Thompson, McCoskey, Dameron, Sanderson, Powell, McLeish, Marlin, Conzelman, McNeil, Barnes, Dozier, Holliger, Margaret Smythe, Hudson Smythe, Kaplan and Chapman. Drs. Sippy and Van Meter were guests. The speakers of the evening were Harbert of Stockton and Hull of Stockton. Harbert had as his subject, tumors of the kidneys, with presentation of a case. He discussed the source of tumors, in and about the kidney, the differential diagnosis of tumors of male and female. He next presented a patient who had been operated upon for a very large cystic kidney following a laceration of the kidney with hemorrhage, subsequent to a fall. This kidney measured 4x6 and weighed four pounds, and four ounces.

Dr. Hull spoke on abdominal tumors. He presented two specimens and pictures of several others. Both papers brought out a great deal of discussion.

SONOMA COUNTY

Sonoma County Medical Society (reported by N. Juell, secretary)—The March meeting of the society was held at the office of Alfred A. Thurlow. George DeWitt Culver read a paper on Dermatology. The society appointed a committee on hospitals and post-convention clinics to co-operate with the central committee in San Francisco. This committee is made up of Jackson Temple of Santa Rosa, Alfred A. Thurlow of Santa Rosa, and Stuart Z. Peoples of Petaluma.

STANISLAUS COUNTY

Stanislaus County Medical Society (reported by R. E. Maxwell, secretary)—The Society met at Hotel Modesto March 16, at dinner, President McPheeters presiding. Those present were De Lappe, Reamer, Finney, Mottram, Hagedorn, Bemis, Walter Smith, and Maxwell. Walter Smith gave a report of a clinical case—vascular hypertension, and Reamer on luetic infection. Both reports brought out considerable discussion.

TULARE COUNTY

Tulare County Medical Society (reported by E. R. Zumwalt, secretary)—The society met on March 17 at Hotel Johnson, Visalia, with twelve members present. Officers for 1923 were elected as follows: President, A. W. Preston, Visalia; vice-president, C. A. Tillotson, Dinuba; secretary-treasurer, E. R. Zumwalt, Tulare; delegate to State meeting, Austin Miller, Porterville; alternate, R. N. Fuller, Tulare.

The speaker of the evening was Cavins D. Hart of San Francisco, who gave a paper on Treatment of the Toxemias of Pregnancy, which was followed by a general discussion.

The committee on certified dairies reported that the list of rules had been adopted and were in the hands of the printer. Also that B. F. Longan of Tulare was ready to begin the manufacture of certified milk about the first of April, his plant to have a capacity of 300 quarts per day.

WEEK-END AT DEL MONTE VIA AUTOMOBILE

Leaving San Francisco Saturday, June 30, 1923, at 10 a. m. Returning San Francisco Monday, July 2, 1923, about 6 p. m., in time for dinner, for parties of six.

All expenses of trip including machine, driver meals on route and meals and lodging at Hotel Del Monte.

Price per person, \$30.

"Del Monte is one of California's largest and best loved resorts. It consists of a vast estate of 18,000 acres, maintained exclusively for the pleasure of its guests. It is one place in America—and probably in the world—where you can do everything or nothing. Whatsoever you choose to do, be it golf, polo, tennis, horseback riding, motoring, swimming, fishing, hunting, sailing, dancing, idling or working, can be accomplished under unsurpassed conditions of ease, comfort and luxury.

"Situated on the historic Monterey peninsula, which projects in the Pacific Ocean with the old Bay of Monterey on one side and the sapphire Bay of Carmel on the other, Del Monte combines the scenic beauty and the benefits of seaside and mountain. Added to this is an unequaled seaside climate, which varies an average of only ten degrees between winter and summer.

"Del Monte is but 125 miles southerly from San Francisco. The trip by railroad, or auto over the perfect State concrete highway, requires only approximately four hours with inspiring and picturesque scenery on all sides."

Special features are being arranged for a post-convention golf tournament on the famous Del Monte Course for Sunday morning, July 1, and possibly a polo game in the afternoon.

Reservations for this trip must be made through the American Express Company, Market and Second Streets, San Francisco, as early as possible, preferably thirty days in advance.

YOSEMITE VALLEY WEEK-END TRIPS

Leaving San Francisco Saturday June 30, 1923 at 11 p. m. and returning San Francisco, Tuesday July 3, 1923, 10:05 p. m.

All expenses of trip, Pullman berths, meals, lodging, etc., included. Price \$59.00.

Special parties of six can make arrangements to make this trip by automobile at the same rate.

Yosemite's appeal is always universal. There is no more beautiful time for viewing the spectacular cliffs and other natural wonders which have made Yosemite Valley known around the world as the Valley Incomparable.

El Capitan, Half Dome, Cathedral Spires, Bridal Veil—all these and more are to be seen at their best.

"One day in the midst of these divine glories is worth living and toiling and starving for" wrote John Muir, the great naturalist, and every day his words are echoed by visitors from almost every State and from many foreign countries, who frequently extend into weeks the stay they originally planned to make.

Among others this trip visits the following famous main points of interest. Viewing Artist Point, Inspiration Point, Signal Peak, Wawona, Mariposa Grove of Big Trees (complete tour of Grove, including Wawona Tunnel Tree, American Legion's Unknown Hero Tree, Grizzly Giant, Three Graces, Solitary Bachelor, trees named for States, Generals and Posts, etc.), Chinquapin, Bridal Veil Meadows, Mono Meadows, Ostrander Rock, Glacier Point and Overhanging Rock, the commanding viewpoint of the High Sierra Country.

Reservations for this wonderful week-end opportunity must be made through the American Express Co., Market at Second, San Francisco, as early as possible, preferably 30 days in advance.

Nevada State Medical Association

HORACE J. BROWN, M.D., Secretary Nevada State Medical Association, Associate Editor for Nevada

Nevada Medical Bulletin, March 15, 1923—It is with pleasure that we are able to announce that the "Public Hospital" bill passed the legislature and has been signed by the Governor; also that the "Nurses' Registration" bill was dug up at the last minute, passed, signed, and is now a law. We congratulate the nurses on at last being able to get a law passed that will not only protect them, but the public as well. All graduate nurses and all nurses that have had twenty-eight months' training in a Nevada hospital, under the direction of a physician licensed in this State, are entitled to register without examination, provided they do so by July 1. Elko County will be the immediate benefactor under the new hospital law, but any county that desires such a hospital can present a petition, signed by 25 per cent of the taxpayers, to the commissioners, who will put the question on the ballot at the next general election and, if it carries, they will immediately proceed to provide such a hospital. It is a good law to know about, and we advise you to acquaint yourself with its provisions.

The A. M. A. meets at San Francisco, June 25-29, and the California Society is working hard to make it a success. They are anxious for as many of our members as possible to be present, and have sent out cards in order to find out just how many will attend. If you have received one of them, be sure to mail the "Return" card—and do your darndest to write "Yes" on the proper line. By the way, did you know that the California Journal is the official organ for the N. S. M. A.? It was so voted at the Elko meeting, and each one of our members is expected to subscribe for it. If you are not already a subscriber, send \$2 to Dr. W. E. Musgrave, 1016 Balboa building, San Francisco, and you will receive twelve issues of a real live medical journal.

The vote on the time for holding our annual meeting is so overwhelmingly for October that there is little doubt that it will be held at that time, and we hope to see not less than seventy-five of our members present. Take a peek at your 1923 card (just to be sure that you have it), then begin going to bed early each night so that you will be all caught up with your sleep. You may then be able to stand the strain of all the oratory, et cetera (especially et cetera). However, we do not guarantee that you will not have to knock off early the last night; it may be necessary in order to preserve your pristine beauty—and peace in the family.

The next annual meeting will be held on September 28, 29 and 30, at Reno, or thereabouts. These dates were selected because they are late enough to let everybody get over the summer rush and early enough to avoid the chill of Fall weather. If Bowers Mansion is available at the time, the meetings will probably be held there, and it is believed that the time and place will bring out an even larger attendance than we had last year. You will notice that the 30th falls on Sunday, and also that three days are set aside this year. The first two days will be devoted to the scientific program and business meetings, while the last day will be used strictly for entertainment. It is planned to spend the day at Pyramid Lake, where we will have a barbecue, fishing and swimming, and everybody is expected to be there with his wife. The Secretary would like to hear from all that will contribute a paper, or case report, and he would like to hear right away as it is time to be getting the program whipped into shape. The Chicago Lying-In Hospital and Dispensary writes: "A further study of hydatidiform mole has been undertaken at this hospital especially in regard to malig-

nancy following this condition. Case reports are wanted from outside physicians. Cases reported by physicians will be greatly appreciated and the physician will be given due credit in any literature published." Address communications to Dr. R. B. Kennedy, 426 E. 51st Street, Chicago. Governor Scrugham has recently filled vacancies in the Board of Medical Examiners, and that body is now composed of the following: S. L. Lee, Carson City; J. L. Robinson, Reno; A. C. Olmstead, Wells; G. E. Leavitt, Yerington, and S. K. Morrison, Reno. An excellent board, we think, and every one a member of the N. S. M. A. This is as it should be, and no harm can come from having as members of the board men who are affiliated with the body that uses its efforts to uplift the qualifications of the members of the medical profession. There are three or four fellows in this state that are so all-fired busy that they haven't time to answer a letter even when an addressed, stamped envelope is sent them. We don't know what to do with them, but we know what we would like to do. We'd like to walk into their offices, put our feet up on their desks and not take them down until they paid their dues and promised faithfully not to get in arrears again. We know we could collect from every one of them if we could only see them in person but as that is impossible we think they should take pity on us and mail us a check. Going to write a paper this time. (Nevada Medical Bulletin, April 15, 1923.)

Who Shall Practice Preventive Medicine—The medical profession is interested in all types of medicine, whether preventive or curative. As a matter of fact, there really is no hard and fast line of demarcation between preventive and curative procedures, any more than there is a dividing line between the metals and the non-metals. The medical profession is interested in all problems of public welfare, but when it comes to matters concerning public health they are the only ones who, through tradition and training, are capable of handling the problems which present themselves for solution. It is the only profession at the present time that is engaged in real preventive medicine, and it is the profession of election for this type of work. Usually public health movements have been initiated by the medical profession, but in many instances the work has passed into the hands of the laity because the members of the medical profession have been preoccupied with other important problems.

It has been claimed by some of the unthinking individuals among the laity that preventive and curative medicine are diametrically opposed. They do not realize that there is, in the last analysis, but little difference between preventive and curative measures. For example, all physicians take blood pressures and make urine analyses during the course of a pregnancy, and not by the wildest stretch of the imagination can this be interpreted as a curative measure; it is a preventive measure, pure and simple.

Through various educational movements which are now being conducted to instruct the public with regard to conditions which are definitely preventable, the great mass of the people are gradually coming to realize that the physician must be looked upon as a teacher and advisor, rather than one who is to be consulted only when symptoms of a diseased condition have manifested themselves. The physician, too, realizes that this teaching attitude is appreciated by the public, for by this means he is able to prevent premature deaths among his clientele. Not only does he spare the patient in question for future usefulness, but, more important, he does not divorce the rest of the members of that particular family. The physician realizes that the most appreciative patient is one who, through early advice and proper instruction, has been saved from untold suffering and an untimely death.—J. E. Rush, The Medical Practitioner and the American Society for the Control of Cancer, The Journal-Lancet, March 15, 1923.

Pharmacology and Therapeutics

COUNCIL ON PHARMACY AND CHEMISTRY OF THE A. M. A.

(Reported by W. A. Puckner, Secretary)

The March report of the Council on Pharmacy and Chemistry lists a number of new remedies which have been accepted by the Council for inclusion in New and Non-Official Remedies: Abbott Laboratories, Sulpharsphenamine-Abbott; Borchardt Malt Extract Co., Borchardt's Cod Liver Oil and Iron Iodide; E. R. Squibb & Sons, Sulpharsphenamine-Squibb; Non-proprietary Article; Sulpharsphenamine.

NEW AND NON-OFFICIAL REMEDIES

Mercurosal—Disodiumhydroxymercurisalicyloxyacetate. Mercurosal contains from 43.0 to 43.8 per cent of mercury in organic combination. It is claimed that mercurosal is relatively free from irritant action, that it is eliminated without untoward effects on the kidney, and that the toxicity is relatively lower than mercuric chloride or mercuric salicylate. Mercurosal is intended for the mercurial treatment of syphilis. It is administered either intramuscularly or intravenously. Mercurosal is marketed in two forms: Mercurosal Intravenous, tubes containing mercurosal 0.1 Gm., and mercurosal intramuscular, tubes containing 0.05 gm. Parke, Davis & Co., Detroit, Mich. (Journal A. M. A., March 24, 1923, p. 844.)

Pneumococcus Anti-Body Solution, Types 1, 11 and 111 Combined—An aqueous solution of the specific pneumococcus anti-bodies, Types 1, 11 and 111 in equal proportions, approximately free from the proteins of horse serum. There is some evidence that this anti-body solution is of value in the treatment of lobar pneumonia.

Pneumococcus Anti-Body Solution, Types 1, 11 and 111 Combined—N. N. R., marketed in packages of one 50 Cc. double-ended vials with a complete intravenous outfit, and in packages of one 50 Cc. double-ended vials. H. K. Mulford Co., Philadelphia. (Journal A. M. A., March 24, 1923, p. 844.)

Sulpharsphenamine—The salt, disodiumdiaminodihydroxyarsenobenzenedimethylenesulphonate, adjusted by the addition of inorganic salt to an arsenic content of from eighteen to twenty per cent. The arsenic content of three parts of sulpharsphenamine is approximately equal to two parts of arsphenamine. The actions and uses of sulpharsphenamine are the same as those of neoarsphenamine, over which it is claimed to have the advantage of greater stability of solution in the presence of air and of permitting subcutaneous injection. For subcutaneous or intramuscular use the drug is dissolved in sterile, freshly distilled water in the proportion of about 0.1 Gm. to 0.3 Gc., for intravenous use a greater dilution is desirable. (Journal A. M. A., March 31, 1923, p. 919.)

Sulpharsphenamine (Abbott)—A brand of sulpharsphenamine—N. N. R. It is marketed in ampules containing respectively, 0.2 Gm., 0.3 Gm., 0.4 Gm., and 0.6 Gm. The Abbott Laboratories, Chicago. (Journal A. M. A., March 31, 1923, p. 919.)

PROPAGANDA FOR REFORM

More Mis-Branded Nostrums—The following products have been the subject of prosecution by the federal authorities charged with the enforcement of the Food and Drugs Act: Vita Oil (Vita Oil Co.), consisting essentially of non-volatile vegetable oil, mineral oil and volatile oils, including turpentine, clove and cinnamon oils with extractives of red pepper and pepper. Gold Medal Brand Sexual Pills (S. Pfeiffer Mfg. Co.), containing phosphorus and extract of damiana and nux vomica. Lovett's Pills (Dr. Lovett Medicine Co.) containing iron, sodium and calcium carbonates and sulphates with traces of plant extractives. Savanol (G. P. Steyh),

capsules containing a saponifiable oil with traces of savin oil, apiol and aloin. Locock's Cough Elixir (I. L. Lyons & Co.), consisting essentially of extract of plant drugs, including ipecac and squill, small amounts of morphin, and acetic acid, sugar and water. Sex-Co. Restorative Tablets (Clyde Collins Co.), containing strychnin, extract of damiana, iron and phosphorus compound. Compound. Compound Tansy, Pennyroyal and Cotton-root Pills (Allan-Pfeiffer Chemical Co.), consisting essentially of iron sulphate, aloes and oil of pennyroyal. (Journal A. M. A., March 3, 1923, p. 645.)

Pan-Secretin Compound—Harrower's Pan-Secretin Compound, according to the advertising circular is "an endocrine combination embodying: (1) a specially prepared extract of Islets of Langerhans (pancreas tail), rich in its incretory glycolytic product; (2) an acid extract of the duodenal mucosa containing the pancreatic activator secretion, and (3) a small dose of desiccated calves tonsil. This formula emphasizes the fact that some of the commercial houses are carrying us back to the days of the shotgun nostrum. It would seem hardly necessary to say that such a combination as Pansecretin Compound is unscientific, and there appears to be no scientific evidence to warrant the belief that such a combination is of value. Four years ago the Council on Pharmacy and Chemistry published a report on some of the Harrower "pluriglandular" mixtures and gave reasons why such unscientific combinations were not acceptable for New and Non-Official Remedies. (Journal A. M. A., March 10, 1923, p. 717.)

Peralga, A New German Synthetic—For the past few years American physicians have been relatively free from the propaganda of the foreign synthetic drugs—real or alleged. Recently, however, there have been signs of revival of this type of product. One of the products being endowed with the halo of creative chemistry, is Peralga (Schering and Glatz), known in Europe as Veramon. The product is claimed to have been originated in the pharmacologic laboratory of Professor Starkenstein, University of Prague (who has lent his name to a number of statements valuable to the proprietary interests.) Peralga is claimed to be a definite chemical compound, made by heating a mixture of barbital and amidopyrin, and it is claimed that this compound is absorbed without being split up into its component radicles. The A. M. A. Chemical Laboratory investigated Peralga. The examination developed that Peralga is not a definite chemical compound as claimed, but essentially a mixture of barbital and amidopyrin, containing an impurity produced in the fusion of the mixture. To determine if Peralga will produce any effects different from a mechanical mixture of barbital and amidopyrin in the same proportion, a specimen of Peralga and a mixture of barbital and amidopyrin in the same proportions as in Peralga were sent to the Pharmacologic Laboratory of Cornell University Medical College for comparative tests. The summary of the laboratory report was: "We can see no difference in the behaviour of cats towards similar doses of the two preparations; the mechanical mixture made in the A. M. A. Chemical Laboratory and the preparation of Schering and Glatz—and they show very little difference between similar doses of barbital and those contained in Peralga. . . . Of course there is no chance of making observations on cats that would show analgesic actions in headache. But since the observable effects on cats are so nearly identical, it is only fair to presume that the 'synthetic' and the mixture are practically alike in action." (Journal A. M. A., March 31, 1923, p. 942.)

Prescribing Codein—Codein is a derivative of opium and hence prescriptions for it come within the pervue of the Harrison Narcotic Act, no matter what the individual physician may believe in respect to its habit forming properties. (Journal A. M. A., March 31, 1923, p. 945.)

Biologic Reactions of Arsphenamin—The com-

plexity of the physical and chemical properties of arsphenamin probably accounts for the complexity of its biologic reaction resulting for the passage through the body. Among the most disturbing of these reactions are the nitritoid or anaphylactoid symptoms occurring after intravenous injection. The earlier studies of the anaphylactoid reactions from arsphenamin cleared up certain features, but left the underlying causes untouched. The investigations of Jean Oliver and his collaborators lead to the conception that arsphenamine can exist in the colloidal state temporarily at least, and that the temporariness of this state is essential to anaphylactoid reactions. The investigators find that arsphenamin has a fairly constant agglutinating titer for blood corpuscles. The presence of electrolyte is essential for agglutination. The work suggests that agglutination by arsphenamin occurs during the transition stage from its colloidal into the crystalloidal state in the circulation, and that stabilization in the colloidal state prevents the agglutination. From their work they conclude that there are two phases to the reactions from arsphenamin: (1) the early or physical phase, which is concerned with the physical properties of the agent and results in the corpuscular agglutination with multiple embolism, the outcome being fatal sometimes, and (2) the later or chemical phase that results in parenchymatous degeneration of viscera (kidney and liver), this being due to the action of the arsenic ions in the usual way. (Journal A. M. A., March 31, 1923, p. 920.)

Eugenical Sterilization—The history of legislation in the United States on this subject, according to the report of the Psychological Laboratory of the Municipal Court of Chicago, may be summarized as follows: From March 30, 1905, to January 1, 1922, fifteen States passed laws providing for sterilization under specified conditions. On January 1, 1922, the law last in force in Indiana, Nevada, New Jersey, Michigan, and Oregon had been declared unconstitutional; the last laws passed in California, Connecticut, Iowa, North Dakota, South Dakota, Nebraska, Kansas, and Wisconsin had not been tested in the courts. The New York law of 1912 was repealed in 1920, after two lower courts had declared it unconstitutional, and while a further appeal was pending. Of the decisions declaring laws unconstitutional in the first five States mentioned, one was rendered in 1913, two in 1918, and two in 1921.

Under the laws which have been or are now operative, 3233 people had undergone operations up to January 1, 1921; of these operations, 2558 had taken place in California and were, in the bulk of the cases, performed on patients in hospitals for the insane and under a law, the constitutionality of which had not been tested, though a previous sterilization law had been held constitutional in California.—The Survey, March 15, 1923.

Nu Sigma Nu—"The Spirit of California" will be the theme of the annual convention dinner of Nu Sigma Nu this year. The revels will be held in the Jinks Room of the Bohemian Club on Thursday evening, June 28, at the hour of seven. The costumes, pastimes, and amusements of the '49 days will be clearly in evidence, and under the able leadership of Dr. "Jack" Shiels (J. Wilson Shiels) the western men will show their eastern brethren a full measure of hospitality and pleasure.

Preliminary announcements have been mailed to every member in California and a large number of reservations have been made. If you have not already done so, will you not attend to this matter at once for the management must have an accurate gauge of the local support. Seating arrangements can be made in advance and certainly no more congenial atmosphere will be obtainable than that which will prevail on this gala night.

Address all communications to H. D. Crall, 1242 A Second Avenue, San Francisco, California.

MEDICAL ECONOMICS

Why not let our advertisers help you?

Alum Rock Sanatorium—Philip King Brown, George H. Evans and Louis Boonschaft announce elsewhere in this issue of the Journal the opening of the new Alum Rock Sanatorium, for the treatment of tuberculosis in all of its forms.

It is pleasing to announce the establishment of institutions under competent management for the treatment of tuberculosis; there are too many so-called tuberculosis sanitariums not adequately provided with facilities for the treatment of the sick and not personneled by educated, scientific physicians. The Journal is glad to include in its advertising columns the name of this new sanatorium with those other splendid institutions of similar character which we have been carrying for some time, namely California Sanatorium, Belmont; Canyon Sanitarium, Redwood City; Colfax Hospital for the Tuberculous and Colfax School for the Tuberculous, at Colfax; Dr. King's Sanatorium, Banning; Oaks Sanitarium, Los Gatos; Pottenger Sanitarium, Monrovia.

New Metabolic Institute—Elsewhere in this copy of the Journal the establishment of a new institute for the treatment of diabetes, nephritis and nutritional diseases, is announced. The Metabolic Institute is under the control of Albert H. Rowe and Caroline Cook Ciffin.

As was to be expected, the public is already being exploited as a result of the recent discoveries in connection with the treatment of diabetes in particular. It is pleasing, therefore, to be able to announce an institution of this character controlled by educated ethical physicians. The Journal also carries in its advertising columns the announcement of a department of this kind at the Santa Barbara Cottage Hospital, Santa Barbara.

Examination for License to Practice Medicine in California—Elsewhere in the Journal, the Board of Medical Examiners of California announces that there will be a meeting of the board in Los Angeles, June 18-21, inclusive, for the purpose of considering applications and holding examinations for license to practice in California. All persons interested in any kind of licensure or any other matter to come before the board should communicate with Charles B. Pinkham, secretary-treasurer, Flood Building, San Francisco.

Institutional Laundry Facilities—One of the important problems of hospital organization and management is that of the laundry. Many of the older hospitals did not make provisions for modern laundry facilities. Unfortunately, some of the newer hospitals now built or in contemplation seem to consider that this important service may be overlooked.

There are at least two splendid laundry machinery manufacturing concerns and service corporations in this country, and both of these carry advertising space in the California State Journal of Medicine—the Troy Laundry Machinery Company has appeared in our columns for sometime, and we are pleased to call attention to the new advertisement of the American Laundry Machinery Company beginning with this issue.

New Surgical Supply House for San Francisco—Bischoff's Surgical House of Oakland, whose advertisement has appeared in our advertising columns for sometime, announce the opening of Store No. 2, at 422 Sutter Street, San Francisco.

Reid Bros.' New Catalogue—Reid Bros., manufacturers and wholesalers of hospital supplies of San Francisco, have just issued a very attractive and useful catalogue. This catalogue is a credit to any business house and will be found valuable and useful to hospitals everywhere.

BOOK REVIEWS

Diseases of the Skin. By Henry H. Hazen, M.D. 2nd ed. St. Louis: C. V. Mosby Company. 1922.

Dr. Hazen's second edition of *Diseases of the Skin* is a book of convenient size, good print, and clearly expressive of the author's idea of a text-book. The illustrations are excellent, but the book is too incomplete in essentials. For instance, the woeful neglect of radium therapy, with the claim of the superiority of roentgen rays, is the author's personal opinion, but it may fail to supply the reader's wants. His dismissal of some of the generally accepted therapeutic measures is not what one would expect in a text-book. The descriptions of diseases are good. A clinching point in the diagnosis of scabies in women—that of the itching and eruption about the nipples—is missed. Stress is laid upon its presence in the folds beneath the mammae instead.

In favor of the book, the reviewer can frankly state that he felt repaid for the time spent in reading it, and no doubt another would be of the same opinion. The fact that much of the personal side of the writer enters into the treatise adds to its value. G. D. C.

Practical Dietetics in Health and Disease. By Sanford Blum, M.D. Philadelphia: F. A. Davis Company. 1922.

This book on diets by Sanford Blum will be welcomed by many physicians who have felt the need of a ready reference work on diets in health and disease. It is a plain, common sense statement of the essential factors governing the prescription of diets, and the pages can be read to the patient or transcribed for him with the certainty that they will be understood and easily followed.

The freedom of the book from the quantitative attitude toward diet, which has become so familiar during the last decade, is delightful and refreshing; the patient who loves to weigh his bread-crusts, and the physician who wishes to think in terms of calories per kilo of body weight, will get small satisfaction out of this book. It has been written by a clinician for practicing physicians who want to be sure of their ground when directing diets, but who do not wish to burden their minds with formulae and equations of a pseudo-scientific type and a purely factitious character.

A very complex index of diseases and their dietetic treatment and an index of foods giving their indications and contra-indications, adds greatly to the value of the books to the busy man who will appreciate being able to turn to the information required without loss of time. L. S. M.

Abdominal Pain. By Prof. Dr. Norbert Ortner. Authorized translation by Wm. A. Brams & Alfred P. Luger. N. Y. Rebman Company. 1922.

Review of "Abdominal Pain," by Ortner

This book is a clinical treatise discussing the diagnostics of abdominal conditions in a way similar to that in which the problems are presented to the physician. The symptom of pain is taken as the starting point and the diagnosis worked out primarily from the nature, location, and history of this pain. In doing this the author has described an amazing number of abdominal conditions that may arise, both common ones and rare ones. The translation, while doubtless accurate, is somewhat lacking in ease, and the book in consequence is in places rather laborious reading. In spite of this defect, however, it is a valuable and important work, and it is one that is well worthy of a place

in the library of every surgeon and physician. The experience of the author has been large, his observations careful, and his reasoning clear. Time nor future discovery will ever make it possible to neglect the method of studying disease which is presented here and which is as old as the practice of medicine—viz., the study of the symptoms which the patient presents by means of the unaided senses. R. V. L.

BOOKS RECEIVED

The Heart in Modern Practice Diagnosis and Treatment. By William Duncan Reid, M.D., Chief of Heart Clinic at the Boston Dispensary, Junior Assisting Visiting Physician and Member of the Heart Service at the Boston City Hospital. 32 illustrations. Philadelphia and London: J. B. Lippincott Company.

Inflammation in Bones and Joints. By Leonard W. Ely, M.D., Associate Professor of Surgery, Stanford University. 144 illustrations. Philadelphia and London: J. B. Lippincott Company.

The Riddle of the Rhine, Chemical Strategy in Peace and War. By Victor Lefebure, Officer of the Order of the British Empire (Mil.), Chevalier de la Legion d'Honneur, Officer of the Crown of Italy, Fellow of the Chemical Society, etc. With a preface by Marshal Foch and an introduction by Field Marshal Sir Henry Wilson, Bart., Chief of the Imperial General Staff. New York: E. P. Dutton & Company, 681 Fifth Avenue.

Addresses and Papers, Dedication Ceremonies and Medical Conference, Peking Union Medical College, September 15-22, 1921. Peking, China. 1922.

Rest and Other Things. A little book of Plain Talks on Tuberculosis Problems. By Allen K. Krause, M.D., Associate Professor of Medicine, Johns Hopkins University, Baltimore. Williams & Wilkins Company. 1923.

The Patient's Viewpoint. By Paluel J. Flagg, M.D., Author of "The Art of Anaesthesia." The Bruce Publishing Company, Milwaukee, Wisconsin.

The Psychology of Power. By J. A. Hadfield, M.A. (Oxon.), M.B. (Edin.) Ashhurst Neurological War Hospital, Oxford. New York: The Macmillan Company. 1923.

The Form and Functions of the Central Nervous System. An Introduction to the Study of Nervous Diseases, by Frederick Tilney, M.D., Professor of Neurology, Columbia University and Henry Alsop Riley, M.D., Associate in Neurology, Columbia University. Second Edition. 591 figures containing 763 illustrations of which 56 are colored. New York: Paul B. Hoeber. 1923.

"Through the babel of popular prattle on Coue, intelligence tests, psycho-analysis, and cults of business or marital success, we are beginning gradually to realize that there is field for scientific investigation in mental as well as physical health, and that it is as right, necessary and justifiable to cultivate the one as the other. But how? Should we hold, with one school, that our troubles exist only in our minds, and to be banished need only to be ignored? Or shrink with horror, in accordance with the tenets of another group, at the dungeon of complexes that such a method would create?"—The Survey, March 15, 1923.

NEW MEMBERS

Alameda County—Joseph B. Enos, Cleve E. Kindall, Oakland.

Butte County—Willard B. Johnson, C. L. Browning, Chico.

Fresno County—E. D. O'Neill, E. R. Scarboro, Fresno.

Humboldt County—F. R. Horel, Arcata.

Imperial County—John McDonald, Brawley.

Kern County—E. A. Schaper, Keene; Charles Hawkins, Taft.

Lassen-Plumas County—H. B. Ehle, Susanville; Robert J. Dixon, Westwood.

Los Angeles County—A. F. Ryan, G. R. Servin, A. C. Willmott, Los Angeles; William H. Wimp, Pasadena; Hovey L. Shepherd, Elmer H. Johnson, Wilfred W. Bennett, Edward P. Clark, Los Angeles; Roscoe H. Brown, Long Beach; Jay J. Crane, C. O. Driver, Robert E. Grogan, J. J. Kirchoff, Le Val Lund, Shaen Magan, Los Angeles; Marion M. Null, Eagle Rock; M. T. Steele, Los Angeles; Riley Russell, Glendale; E. R. Lambertson, Los Angeles; Charles W. Stewart, Whittier.

Marin County—B. H. Pratt, Larkspur; G. M. Landrock, Mill Valley.

Mendocino County—Robert O. Le Baron, Donald Smith, Talmage.

Monterey County—Hugh F. Dermody, William M. Gratiot, Pacific Grove.

Orange County—B. W. Hardy, Huntington Beach; Roy M. Fortier, Santa Ana; John C. Hethcock, Fullerton.

Placer County—Claude C. Tucker, Georgetown.

Riverside County—Silas J. Brimhall, Elsinore.

Sacramento County—Bernard J. Rea, Sacramento.
San Bernardino County—Ralph L. Alexander, Ontario; William C. Clough, Llewellyn C. Kellogg, Loma Linda; Walter W. Fenton, Arrowhead; James R. Liverman, Needles; Fred B. Moor, Loma Linda.

San Diego County—L. R. Knorr, Lakeside; George E. Cruikshank, D. A. Seibert, W. H. Geistweit, San Diego.

San Francisco County—Paul D. Michelson, Jr., Charles E. Nixon, William A. Dougherty, Howard M. Engle, Louise E. Taber, Henry Ostroff, Robert A. Ostroff, Arthur W. Herbert, Harry G. Ford, Christopher Leggo, Martin D. Iove, San Francisco; Harvey H. Whitney, Burlingame; John M. Waste, McCammon, Idaho.

San Joaquin County—A. L. Van Meter, Stockton; C. V. Thompson, Lodi; H. E. Kaplan, Stockton.

Santa Barbara County—Gilbert V. Hamilton, Santa Barbara.

Santa Cruz County—W. R. Congdon, Santa Cruz; A. F. Davis, Soquel.

Shasta County—J. E. Taylor, Redding.

Tulare County—Norman C. Paine, Exeter; H. R. D. Shoemaker, Lindsay; J. Harvey Banks, Visalia; Morton W. Fraser, Woodlake.

Obituary

PAUL WEGEFORTH, M.D.

Born May, 1887—Died March, 1923

Dr. Wegeforth was graduated from Baltimore City College with honors. In 1908 he received the degree of Bachelor of Arts from Johns Hopkins

University, and the degree of Doctor of Medicine from the same University in 1912. From 1909 to 1911 he was an exchange student at the Universities of Berlin, Strassburg, and Leipzig. Following graduation he was resident physician at the Church Home and Infirmary at Baltimore, following which he served as assistant to Dr. Harvey Cushing for one and one-half years at the Peter Bent Brigham Hospital.

One of the first volunteers at the outbreak of the war he was sent to Camp Meade at Baltimore, but was soon transferred to the Johns Hopkins Medical School, where he and Dr. Louis Weed were placed in charge of the Army Neuro-Surgical Laboratory, with seventeen assistants. Much valuable work was done and it received honorable mention, eight reprints being published by the Rockefeller Institute in the "Monographs" of the Rockefeller Institute of Medical Research, under the names of Dr. Louis Weed, Dr. Paul Wegeforth, Dr. J. B. Ayer, Dr. C. R. Essick.

During his period of military service he was sent to Camp Jackson, Virginia, to investigate an epidemic of meningitis, and while there discovered that meningitis developed within twenty-four to forty-eight hours after a lumbar puncture was made on a case suffering with an acute infectious disease. This was considered a very important discovery. He remained at Camp Jackson during the influenza epidemic, putting in long hours working among the men. At another Virginia camp he investigated the sleeping sickness, after which he returned to Johns Hopkins, where he remained until the armistice was declared. After the armistice he was sent to Letterman General Hospital in San Francisco for six months, and was discharged there.

Returning to San Diego he resumed his practice, but was forced to give it up on account of his health about a year ago. Dr. Wegeforth was a member of The American Medical Society, The Alumni Association of Johns Hopkins Medical School, the San Diego County Medical Society, and many other organizations.—(San Diego County Medical Bulletin, April 6)

DEATHS

Cox H. M. Died at San Luis Obispo, March 4, 1923, age 74. Graduate of the College of Physicians and Surgeons of Keokuk, Iowa. Licensed in California in 1895. Up to the time of his retirement in 1920, Dr. Cox was a member of the San Luis Obispo County Medical Society, the State Medical Society and the American Medical Association.

Hon. Ulrich. Died at Los Angeles, March 15, 1923, age 71. Graduate of the University of Louisville Medical Department, 1875. Licensed in California in 1903. He was a member of the American Medical Association.

Kosby, Augustus E. Died at Yuba City, March 21, 1923, age 77. Graduate of the University of California Medical School, San Francisco, 1875. He was a member of the American Medical Association.

Lydston, C. Frank. Died at Los Angeles, March 14, 1923, age 65. Graduate of the Bellevue Hospital Medical College, New York City, 1879. He was a Fellow of the American Medical Association.

White, Mary B. Died at Palo Alto, March 17, 1923, age 66. Graduate of Hahnemann Medical College and Hospital of Chicago. She was a member of the American Medical Association.